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ABSTRACT

The Washington Occupational Information System (WOIS) is a project of a consortium of State education and employment agencies to provide dissemination of occupational and educational information to both users and producers: schools, social service and manpower agencies, employees, and employers. The WOIS project organization and operation is concerned with the three major areas of information development, delivery systems, and service to users. Oregon's career information system was used to develop occupational descriptions and computer programs for Washington's system, as the labor profiles of the two States are very similar. This report describes the development WOIS and its functions. The process evaluation section discusses WOIS development, utilization, and influence (cooperation with key State agencies) and recommends that those implementing an occupational information system allocate ample time for inservice training and detailed planning. The evaluation also notes that substantial time is also needed to convert and thoroughly test the computer software system before demonstration. The five appendixes, covering approximately half of the document, present the WOIS table of organization, the past schedule of WOIS demonstrations throughout the country, outlines of two WOIS inservice training programs, 13 WOIS exhibits/forms, and the WOIS second year plan. (MF)

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IMPLEMENTING AN OCCUPATIONAL INFORMATION SYSTEM

FINAL REPORT
CONTRACT NO. 99-6-478-08-3

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SEPTEMBER, 1976

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PREFACE

During the 1975-1976 school year, the U. S. Department of Labor through the National Occupational Information Service encouraged eight states to substantially improve their methods of occupational information delivery to persons who are in the process of career exploration and decision making. The programs are directed especially toward students and out of school youths. This progress report reflects the first year's experience of one of those states.

The Washington Occupational Information Service hopes this report will serve a broader purpose than mere project reporting. We are presenting here our objectives, things we did, and our thoughts regarding our effectiveness. It is both reflective and prescriptive. Hopefully, it will be of use not only in assessing our efforts during this initial year, but also to others who are contemplating, or in the process of developing and implementing a statewide occupational information system.

I

INTRODUCTION

A. BACKGROUND

Washington Occupational Information Service is a project of the Washington Occupational Information Consortium (WOIC). This consortium was established as the most appropriate response to the needs in the state to assure development and efficient dissemination of high quality occupational information to people making vocational choices. WOIC consists of representatives from the Office of the Superintendent of Public Instruction, the State Board for Community College Education, the Council on Postsecondary Education, the Employment Security Department, the Commission for Vocational Education, and the Governor's Office. This representation provides participation by key Washington institutions representing both users and producers of occupational data: common school districts, colleges, educational agencies, social service agencies, manpower agencies, employees, and employers. The consortium has a Board of Directors and a staff structure.

WOIC envisions a labor market information enterprise, of which the career information system (WOIS) is a key feature. Other segments are a job market information system (JMIS) and a manpower information system (MIS). The career information system (WOIS) further consists of both an occupational information system and an educational information system. Prior to the development of the Consortium, the activities comprising each of these components were developed as ad hoc responses to problems faced by various agencies. These segments--the WOIS, JMIS, and MIS--are in fact presently housed in various agencies of the State and are funded by Federal, State, and user revenues. At the same time, all three segments have many dimensions in common. There are overlaps both in the type of information produced and among the users of information. In the absence of coordination and inter-agency cooperation, there had been little control over duplication of effort, inconsistent information, and a highly variable degree of user responsiveness. Elimination of such problems is the chief benefit expected from a coordinated approach to the overall system by the Washington Occupational Information Consortium.

The job of rationalizing labor market information activities in Washington state in implementing the enterprise concept has been entrusted to the WOIC. This consortium, thus, has a dual function of overseeing management of specific activities related to the occupational information system and of rationalizing and enhancing other components of the enterprise.

Washington Occupational Information Service is a consortium project that has been provided with start-up funding from the Department of Labor to provide information to persons who are in the process of career exploration and decision making, especially students and out of school youth. It has virtually 100% Federal funding for the first year of operation and a decreasing percentage of Federal funding for the last three. Increasing State support is planned to offset the Federal funds, so that by 1979, the project will be entirely State supported by either user fees or general fund appropriations.

A number of options were open to WOIS in designing a method through which occupational information is to be supplied. The method chosen was one found successful in Oregon, the Career Information Service. It is a computer based system which provides descriptive information about 227 occupations and comprehensive program information for Oregon's state, private, and proprietary postsecondary schools and colleges. The Oregon system has become a model for many states developing such systems due to its ease of use and comprehensiveness. During the first year, WOIS staff members: (1) used the Oregon computer programs, (2) provided data to the system reflecting the employment environment by occupation, and (3) utilized heavily the Oregon CIS techniques for information development, library development, marketing and related areas.

B. ORGANIZATION

At the end of the first year, WOIS staff consists of twelve people who possess expertise in information development, research and evaluation, computer systems, and marketing and service. Their job is to identify, collect, analyze, prepare, and disseminate appropriate information to help people in the process of career exploration. The research and evaluation efforts are primarily directed to system evaluation and the exploration of improved methods of information delivery. The project is not staffed for primary research in the disciplines which it utilizes. Rather, secondary sources are the ones relied upon. Consequently, such fields as labor market analysis, manpower projections, or educational program planning fall outside the scope of WOIS, although such topics do fall within the general purview of the Washington Occupational Information Consortium.

Following approval of its proposal to establish an occupational information service, submitted in January, 1975, WOIC set about the task of hiring a director, recruiting other staff members, locating office space, setting up fiscal procedures, and generally organizing for the first year's work. The director assumed duties on August 4, 1975, the date the contract with the Department of Labor was signed. The bulk of the additional professional and support staff were engaged during the fall of 1975. An organization chart is shown as Appendix A. The tasks facing this group accelerated the timetable specified in the Standards and Guidelines for an NOIS program. The primary factors which appeared to make this approach feasible were: (1) the decision to use the Oregon Career Information System model and the related information access system (CIS) described in Developing a Career Information System by Bruce McKinlay and (2) prior experience with that system in Washington state. Contractual arrangements, in effect, between the WOIC and the Oregon CIS included support from Oregon CIS for software maintenance and enhancements and other materials. Strong technical support from Oregon and experience in Washington for over two years of demonstration and private projects using OIAS justified an aggressive approach to building a staff which within 90 days obtained specific technical support and began to provide service by October, 1975 to the Puget Sound area. This service contained information appropriate to Washington including wages, outlook, employment, preparation and educational programs.

C. ADMINISTRATION

A number of alternative structures are available in organizing and administering an innovative project of this type which cuts across State agency lines. Some of these are:

1. The project as part of a regular (line) agency's operations with responsibility for planning, implementing, and accounting resting with that agency. This structure would not have an independent

board of directors but might have an advisory board constituted of representatives from various agencies.

2. The project as an independent, not-for-profit corporation with various interested agencies represented on the board.

3. The project as an activity of a consortium or cooperation with either agencies or user groups or both represented on the board of directors.

No one structure is probably inherently better than another. The choice should depend upon the specific circumstances in each case. Washington chose the consortium structure with agency representation on the board of directors. This group works under an inter-agency agreement known in Washington as an interlocal agreement and is organized as follows:

AGENCY	HEAD	BOARD MEMBER
Office of the Governor	Daniel J. Evans	John Walker
Superintendent of Public Instruction	Frank Brouillet	Bruce Brennan
Commission for Vocational Education	Arthur Binnie	Arthur Binnie
State Board for Community College Education	John Mundt	Harold Heiner
Council for Postsecondary Education	Patrick Callan	Peggy Anet
Employment Security Department	Norward Brooks	Jack Tracy

This structure has helped develop the necessary inter-agency cooperation in initiating a career information service. Board members are able to contribute considerable expertise and support which a lay board would not be able to do. Users are represented on a User Advisory Group which advises the staff and board. So far, this arrangement has worked well. It may be that as the project matures, a different structure will be more appropriate, but that matter awaits evaluation after longer experience.

D. 1975-76 OBJECTIVES

General WOIS organization objectives of the past year include the following:

1. recruiting and hiring a competent staff;
2. developing specific objectives and procedures for first year operation;
3. acquiring State of Oregon occupational descriptions and modifying them for Washington use;
4. developing Washington program and school information;
5. acquiring the CIS computer programs and converting them for use on one of the Washington computer systems;
6. implementing the converted system in secondary schools, vocational-technical institutes, community colleges, four-year colleges and universities, and social service agencies; and
7. maintaining a basic compatability between Oregon CIS and Washington OIS.

The specific objectives for each group within the WOIS: User Services, Information Development, and Delivery System are included in Sections II, III, and IV of this report. Each section will reflect the tasks attempted, the reason for them, and the degree to which each was successful in attaining the overall goals of the organization. Section V contains a detailed process evaluation of the project. Section VI presents a preliminary financial summary, and Section VII contains a summary and recommendations. Appended to the report is the WOIS Second Year Plan.

As an organization, the Washington Occupational Information Service was highly successful in attaining all of its NOIS first year goals. The staff numbering twelve were recruited and hired, the Oregon computer programs were converted and made available on two computer systems, the occupational descriptions were modified as appropriate for Washington, the Washington program and school data were collected, and the computer base system was made operational in 25 school and agency locations reaching a potential number of users exceeding 53,000.

II

INFORMATION DEVELOPMENT

The major objective of the Information Development Section was to develop accurate, current, and locally relevant occupational information for the potential users in the state of Washington. From the inception of this project, Oregon's Career Information System as presented in Developing a Career Information System, and information development standards as presented in the Occupational Information Systems Grants Program: Standards and Guidelines, served to provide the boundaries for information development activity. Information development was perceived as consisting of two phases: (1) gathering information, and (2) preparing the information for general usage. From the outset of project activity, there was a commitment not to conduct primary research, but to limit the collection process to secondary information sources having a higher degree of validity and reliability. Likewise, the preparation of the information was based on maximum utilization of the Oregon developed information rather than developing original occupational information statements. This was practical since it was found through research that the labor profiles of the two states were very similar.

A. ECONOMICS OF INFORMATION DEVELOPMENT

Oregon wisely focused on developing information that was accurate, current, and localized. They had also developed a style and format for developing information statements which had broad acceptance among the various users. A pilot study in the state of Washington (1974-75) demonstrated general acceptance by community college students. In one study (Highline Community College), ninety-three percent of the users expressed satisfaction with their experience. The task, then, for Washington was: (1) to validate the CIS information statements for the state of Washington using Washington source documents, occupational and educational specialists, and review panelists, and (2) to follow the basic methodology used by Oregon in preparing alternate or new information. In a word, the economy of using the CIS model and information formats was that quality information was made available to users in Washington in a relatively short period of time and at much less expense than by developing original formats and methodology. An additional benefit was that Oregon personnel were available to conduct in-service training sessions with the newly recruited personnel. These training sessions were based on a modeling strategy in an information development context. This made for a more rapid learning process; a critical factor when using inexperienced information developers.

B. INFORMATION SOURCES

There seems to be an abundance of occupational and educational information in varying degrees of accuracy, currency, and consistency. The Information Development staff began immediately to identify and to acquire major information documents. The Oregon document, Developing a Career Information System, and the Washington project proposal both contained valuable lists of major information sources. These and other documents were gathered and eventually organized into an effective staff resource room. Out of the numerous national and local sources gathered by WOIS staff, the following documents were the most commonly used in converting Oregon information for use in Washington.

(1) WAGES

- a. Washington State Department of Personnel, "1974 Wage & Salary Survey"
- b. Washington State Legislature, "1975-76 Salary Survey"

c. Bureau of Labor Statistics, 1975, "Area Wage Surveys" (Seattle-Everett, Spokane, Tacoma, Bremerton, Richland-Kennewick-Walla Walla-Pendleton)

d. Washington Local Government Personnel Institute, "Washington City and County Employee Salaries and Benefit Survey for 1975"

e. AAUP Bulletin, August, 1975, "Two Steps Backward: Report on the Economic Status of the Profession, 1974-75"

f. "Washington State Department of Personnel Compensation Plan"

g. "Washington Higher Education Personnel Board Compensation Plan"

h. Employment Security Department Wage Analysis Unit, special surveys and other current information on occupational wage rates.

i. Employment Security Department, Daily Job Bank

j. Washington State Minimum Wage Law as amended by Substitute House Bill 32, September 1, 1975

k. A Guide to Apprenticeship Opportunities in the State of Washington, February, 1975

l. Apprenticeship Standards from local Joint Apprenticeship and Training Committee, statewide

m. Seattle Times and Tacoma News Tribune - help wanted advertisements

n. Review by professional groups, trade unions, employer associations, or other individuals or organizations associated with each occupation.

(2) CURRENT EMPLOYMENT

a. 1970 Census data (total employment and geographic and sex distribution)

b. Employment Security Department, "Washington State Occupational Trends, 1970-1980"

c. Employment Security Department data on current employment by industry

d. Employment Security Department, "Rural Manpower Report, 1974"

e. Oregon State Employment Division, "Occupational Employment Survey", (occupational percentage breakdown for the lumber and wood products industry)

f. National Center for Health Statistics, "Health Resources Statistics"

g. Review by knowledgeable observers (see "l" and "m" under WAGES)

(3) EMPLOYMENT OUTLOOK

a. Employment Security Department, "Washington State Occupational Trends"

b. Bureau of Labor Statistics, Occupational Outlook Handbook, 1974-75 (replaced by the 1976-77 edition)

c. Other BLS publications on manpower trends in various occupations and industries (e.g., Computer Manpower Outlook)

d. Review by knowledgeable observers (see "l" and "m" under WAGES)

e. CIS material

(4) LICENSING REQUIREMENTS

a. Employment Security Department, "Licensed Occupations Guide and Licensing Information in the State of Washington", revised 1971

b. Revised Code of Washington, 1974 revision

c. Contact with various licensing authorities

(5) PREPARATION

a. Bureau of Labor Statistics, Occupational Manpower and Training Needs, revised 1974

b. CIS material

(6) PROGRAM OUTLOOK

a. State Commission for Vocational Education, "Washington State Job Opportunities Forecast 1976-82"

b. Review by CVE representatives

In addition, sources such as the Directory of Washington Manufacturers, 1974, and the Atlas of the Pacific Northwest were used to obtain general information on geographic distribution of Washington's manufacturing and natural resource industries.

Two documents were highly sought after but were only recently secured. One was the DOT Data Display 1976 (JAV tape) which is invaluable for attribute coding and for developing new occupational descriptions. The other document was the

Washington State Job Opportunities Forecast-440 Census Occupational Categories which is helpful in determining occupational employment and demand estimates.

C. INFORMATION CONVERSION PROCESS

Because the pilot study (1975-76) exposed a number of community colleges to the CIS system and materials, there was a group of users in the state of Washington anticipating and ready for locally relevant information. To meet this opportunity, the Information Development staff developed an ambitious plan involving three phases: (1) conversion of CIS information to Washington information, (2) developing new occupational and educational information, and (3) validating the developed information.

After project funding, the hiring of basic staff, and the development of an essential organization structure, Oregon CIS materials were made available to those community colleges willing to accept the system on an interim basis. This provided a brief period of time for WOIS to become established, get organized, hire staff, and plan details of the first year's activity. It also provided the Information Development team with lead time for gathering source documents, receiving in-service training, and making alterations in CIS information appropriate to the state of Washington.

By mid-year, basic WOIS information files were developed and ready for use on the computers at The Evergreen State College and at Eastern Washington State College. This basic system consisted of the occupational description file, the preparation file, the bibliography file, the attribute file, and the programs and study file. (For detailed information regarding different files, see the Process Evaluation section of this report, Chapter 5.) To the delight of users, information was available for 227 occupations and for 229 educational programs found in the state of Washington (see Second Quarter Report for samples). The intensive in-service training sessions in Oregon and the decision to use the CIS model for developing information greatly facilitated the entire process. Generally, major changes occurred in sections dealing with current employment, wages, employment outlook, preparation required, licensing requirements, and union membership. The bibliography file required changes so that appropriate references were made to the Directory of Washington Manufacturers. Lengthy discussions were also held with Oregon personnel relative to the attribute file with some changes being made to correct undesired outcomes to QUEST responses.

A staff resource room was organized following the CIS classification system with minor modifications made to meet the divergent needs of the WOIS staff. The quality of the materials contained in the resource room has steadily improved. In addition to source documents needed for information development, there are materials for professional growth and development and for understanding other occupational information delivery systems.

A visit file containing names of 179 persons representing 141 different occupations was developed for the City of Tacoma as a prototype for other visit files. Procedures and materials were also developed so that users desiring a visit file could easily replicate the Tacoma model. The rationale was that from an effective use and cost efficiency point of view, it was not expeditious for WOIS to develop and maintain visit files for every local user. WOIS would, though, serve as a consultant, transcribe information, and provide in-service training to insure the successful development of additional visit files.

The information produced by WOIS Information Development Specialists was initially submitted to reviewers from professional associations, labor organizations, leaders in business and industry, and other occupational, educational and placement specialists. This initial review process served to alert WOIS to some of the local variations as well as to validate the content of the prepared materials. Toward the end of the grant year, a more formal review panel process was developed and implementation was initiated.

During this grant period, information was developed for 229 educational training programs. These program statements represent a major portion of all of the occupational training programs offered by the public and private colleges and universities, community colleges, and vocational-technical institutes in the state. A few of the proprietary schools are included; additional statements are planned for them in the future. The Oregon CIS format and some general data were used as the basis of the WOIS data base. Information supplied by the personnel from the State Board for Community Colleges and by the Commission for Vocational Education was used in developing information describing programs under their aegis.

Developing detailed school information in an acceptable manner to agencies and institutions responsible for developing and disseminating institutional data proved to be a more difficult task than expected. Coordination of the development of a suitable format and structure with the educational agencies resulted in a prototype to be used by WOIS. The information collection process has begun, and it is expected that detailed school information will be available for user access before the end of the first quarter of the 1976-77 grant year.

D. SUMMARY

During the first year of grant activity, the Information Development staff gathered and prepared occupational and educational information statements so that the basic system components were ready for use on the computer at Eastern Washington State College by January, 1976. (The Evergreen State College computer serves now as a back-up and testing system.) This basic system consisted of occupational descriptions, preparation statements, bibliographic information, educational program descriptions, and attribute file. The prototype for the detailed school information file was also developed. In addition, the support components were well established:

1. the identification, acquisition, and classification of source documents into a functional staff resource room, and
2. the development and initial implementation of the review panel process for validating materials produced by the Information Development staff.

III

DELIVERY SYSTEM

A. FEATURES OF AN EFFECTIVE SYSTEM

The best information in the world is worthless unless it reaches its intended audience. Currently, apart from WOIS and similar systems, the mechanics involved in individual users obtaining occupational information are extremely difficult; clients may seek a counselor, may write to various employment associations, or perform a library search. In most cases, the information available is fragmented and may be out of date, or of poor quality. Additionally, the time involved in getting even a partial answer may be enough to discourage any further exploration. In an effort to develop the most effective system, the state of Washington relied heavily on the experience of the Oregon Career Information System. Features which Oregon identified as being important in occupational information delivery systems and which became our objectives are the following: (See Bruce McKinlay's Developing a Career Information System, p. 87).

1. Make information accessible to persons of varying ability and experience;
2. Provide a means of integrating occupational information with client's interest, values, aptitudes, and abilities;
3. Use the media that are most appropriate for the particular kinds of information;
4. Display and/or deliver information in an attractive manner;
5. Provide accurate and current information, including capacity for updating;
6. Supply local as well as national data;
7. Provide information concerning a wide variety of occupational groups;
8. Include such specific information as: job duties, work environment, hiring and training requirements, terms of employment, hours, current labor market situation, and long-range outlook.

It is clear that an adequate information delivery system has certain attributes regarding information content such as timeliness and comprehensiveness, and also must have certain logistical standards regarding delivery mechanisms such as accessibility, attractiveness and efficiency. To meet these requirements and our overall objectives, Washington contracted with the State of Oregon to use the Oregon delivery system. This consists of a computerized system plus a needle-sort or manual system for those who do not wish to use the computer system. The informational content questions are discussed in Section II on Information Development. This section will discuss only our experiences during 1975-76 with the actual delivery mechanism.

The structured access, QUEST questionnaire, is a process used by most clients to access the occupational information in the career information system. QUEST aids a person in completing questions and in entering his or her responses through a computer terminal or manually by sorting a deck of needle-sort cards. In both cases, the purpose is to help a client identify some new pertinent occupations. With the computer version, the client receives a typewritten list of occupations at the end of the questionnaire. This list matches potential occupations with the answers given regarding interest and abilities. The needle-sort version sorts out cards not relating to the occupations so that by the time the client completes the needle-sort process, he is left with a deck of cards which represents those occupations in which he may have interest. WOIS had very little experience with the needle-sort version this year as most of our users wanted to utilize the computer-based system, and the construction of the decks is a complex, long-term task. Readers interested in an evaluation of the needle-sort may wish to contact the Oregon Career Information System directly, as their experience is much more extensive.

We found that most commentors thought the QUEST was very useful. Additionally, we had suggestions for developing different structured access techniques to expand the ways of reflecting occupational interests and competencies.

B. WOIS COMPUTER DELIVERY SYSTEM

During 1974-75, several of the Washington community colleges experimented with the Oregon system using the Hewlett-Packard computer at The Evergreen State College. During the fall of 1975, we continued to use this system but contracted with the Eastern Washington State College at Cheney to convert these Basic language programs from HP Basic to run on their computer. Eastern Washington State College had been designated as The Interactive Computer Center for all Washington State agencies by the Washington Data Processing Authority. WOIS was assured of effective, low-cost computing services for WOIS and our using agencies throughout the state.

The conversion of the Hewlett-Packard Basic to the Univac system were not entirely successful. It appears that the major reasons for this were:

1. lack of adequate documentation of the Oregon system;
2. inadequate analysis of the task involved by the computer center staff which resulted in a number of missed deadlines;
3. inadequate staff support by the computer center for the conversion effort; and

4. a difference in the way the Univac operating system handles certain programs from the way in which the programs were originally designed.

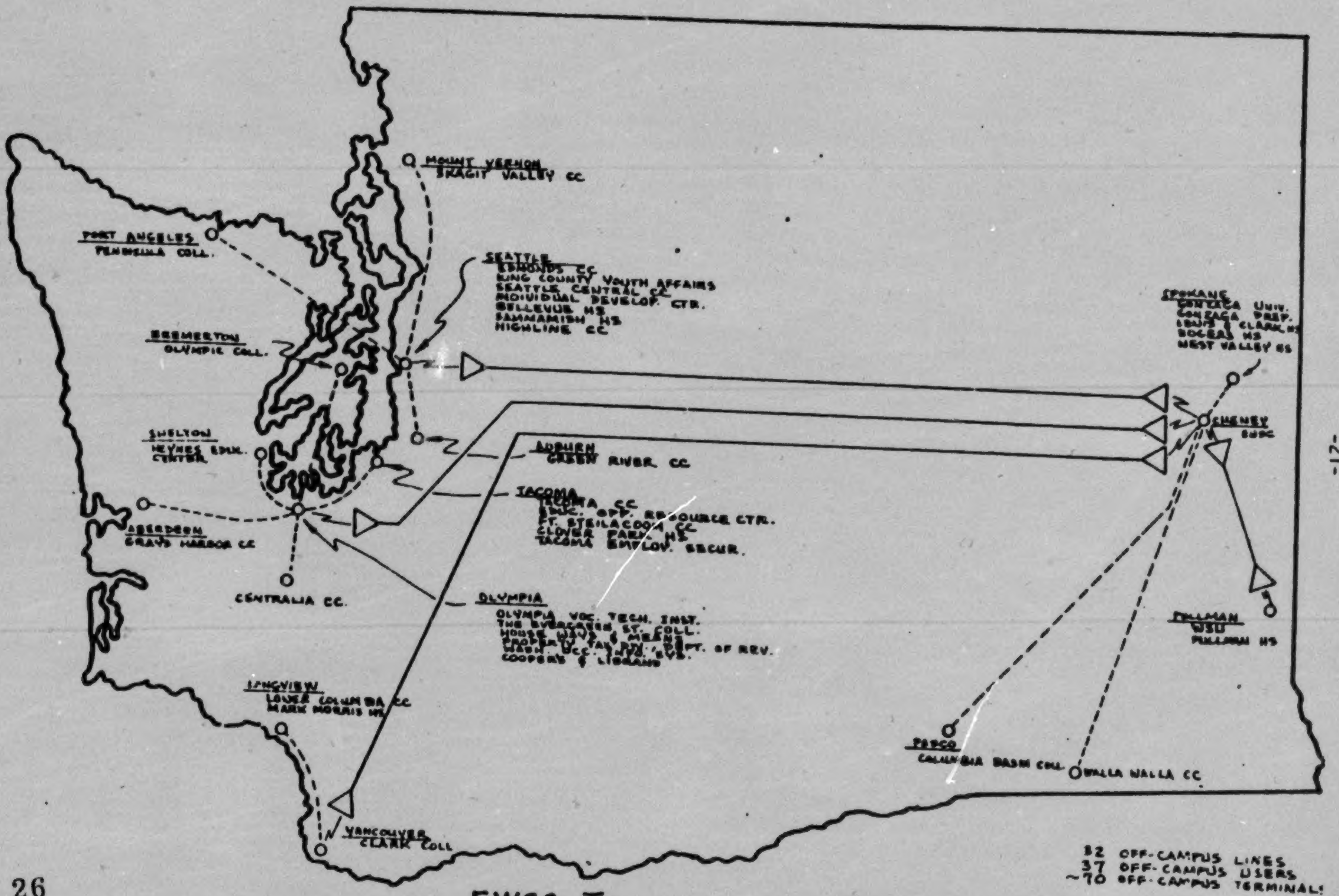
During January, February, and March, this system was used as the production center with Evergreen as back-up, although there were some programming difficulties with the Eastern system. At the same time, the conversion of the Basic program to a Univac Assembler program was begun. It should run much more efficiently and provide the type of services WOIS requires. By the end of the year, the files which users were accessing were available and the programming was essentially complete. However, some of the programs for WOIS use such as updating and statistics, were not yet available, and there were some unfinished portions of other work including documentation. Experience in this conversion would lead us to make the following observations:

1. If the objective is to get a system running quickly, the best way is to run the computer program on a similar computer which requires no conversion at all;
2. If there is to be a conversion, the effort should be thoroughly explored, scoped, and realistic deadlines and staff support assigned; and
3. Complete documentation should be required from those providing the program.

During 1976-77, there will be an opportunity to fully evaluate the conversion efforts. Until the system is fully converted, it is not appropriate to come to a final conclusion. However, there have been a number of other problems with the computer system which may cause the staff to look at other types of computer solutions to the delivery question.

One of the most difficult problems has been the establishment of effective telecommunication lines. As can be seen from the map on the following page, we attempted to set up local dialing capability in most of the metropolitan areas of the state. These included Seattle, Tacoma, Olympia, Vancouver, and Spokane. We found an unreasonable time delay between ordering communications equipment and its installation. We also have had considerable line transmission difficulties between Eastern Washington and the Seattle area. This results in frustration on the part of users and computer center personnel as well. We also found that our users require use of the system on a demand basis during the day which makes "balancing" of line use very difficult. The computer center must install expensive communications equipment for only a few hours' use each day. This raises serious questions regarding the economics of long distance computing service. It should be noted that WOIS still considers a computer-type system the most effective, but that the WOIS particular situation posed several unique difficulties.

One particularly rewarding effort in establishing the delivery system involved a joint effort between the Oregon CIS and WOIS. The Vancouver, Washington, School District located in the Portland SMSA utilized the Oregon system. This has met their needs for occupational information but not for training and school information. Through a series of conferences, cooperative arrangements have been made between WOIS, CIS, the Vancouver School District and the computer center at Eastern Washington State College to make both


MOUNT VERNON
SKAGIT VALLEY CC
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PENINSULA COLL.
SEATTLE
EDMONDS CC
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SEATTLE CENTRAL CC
INDIVIDUAL DEVELOP. CTR.
BELLEVUE HS
SAMMAMISH HS
HIGHLINE CC
BREMERTON
OLYMPIC COLL.
SHELTON
HEYNES EDUC. CENTER
AUBURN
GREEN RIVER CC
TACOMA
TACOMA CC
EDUC. OPP. RESOURCE CTR.
FT. STEILACOOM CC
CLOVER PARK HS
TACOMA EMPLOY. SECUR.
ABERDEEN
GRAYS HARBOR CC
CENTRALIA CC.
OLYMPIA
OLYMPIA VOC. TECH. INST.
THE EVERGREEN ST. COLL.
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CHENEY
EWSC
PULLMAN
WSU
PULLMAN HS
PASCO
COLUMBIA BASIN COLL.
WALLA WALLA CC
32 OFF-CAMPUS LINES
37 OFF-CAMPUS USERS
~70 OFF-CAMPUS TERMINALS

EWSC TELECOMMUNICATIONS APRIL '76

Oregon and Washington information available in the Vancouver area during the next school year.

C. COMPUTER COSTS

Costs to users for computing were quite reasonable. The computer center charged $3.50 per hour. This meant that a high school could have a very active program for about $2,000 computer time cost for the entire school year. In addition to the computer time, a school would also have to obtain a terminal which could be purchased for approximately $2,000 and pay the service enrollment fee. The initial estimate to agencies considering this delivery system was that they should plan to spend between $4,000 and $6,000 per terminal. In many cases, the actual costs were less due to the fact that they did not use the system a full day.

While a number of difficulties with the computer system were encountered during 1975-76, it should be emphasized that WOIS does believe this approach to a delivery system provides the best solution to the question of attractiveness, client attentiveness, immediacy, and current information. Through the use of portable terminals, information was delivered to both rural areas and urban centers. The only real question at this point is whether a single computer center located geographically remote from the majority of users can effectively and efficiently handle the WOIS program. The WOIS programs are not large and the users as a whole do not use substantial amounts of computer time. The problem is further compounded by the fact that they require service on a demand basis. We think that the approach Oregon has taken in locating the computer program on several computers through the state makes sense. Other possible solutions are:

1. mini-computers in urban areas run by the Occupational Information Service or a user agency;
2. microcomputers; and
3. a combination of computers and automated visual aids.

During the next school year, we will not only evaluate the system currently in operation but will also identify and evaluate other alternatives.

IV

SERVICE TO USERS

The three major objectives of the User Services group are to market the system, provide training and follow-up service to program users, and to provide liaison between program users and various sections of the WOIS staff. In a normal development cycle, one would expect the major portion of the first year to consist of developing an awareness of the occupational information services throughout the state. A great deal of the User Services staff time was consumed in this activity. However, because an additional objective was to establish this system in a number of agencies during the current year, staff also spent time in training and consulting with program users. The following sections will discuss marketing, in-service training, and feedback or maintenance philosophy and activities.

A. MARKETING

Presentations and demonstrations of the information delivery system components and discussion of the system's capabilities and limitations to potential user institutions and agencies were the principal means used in the marketing effort. The first major demonstration was a statewide conference held in Seattle on October 31, 1975. To this meeting were invited representatives from schools, community colleges, colleges, and social service agencies. Over 250 people attended. This particular meeting formed an excellent base for the marketing effort throughout the rest of the year. A follow-up questionnaire assessed each participant's interest and questions. From this questionnaire, we were able to develop a list of people who would like to have on-site presentations and demonstrations at their agencies. The staff was also able to develop a list of questions to which we developed answers and published on a statewide basis. This Question and Answer document has been revised two or three times during this fiscal year and is an excellent device for follow-up to conferences in case people have questions still on their minds. Following the October 31 kick-off, a number of presentations and demonstrations were held throughout the state as shown in Appendix B. In addition to the on-site demonstrations, WOIS staff members attended a number of professional meetings during the year. These meetings are particularly helpful in both building an awareness of WOIS and in obtaining feedback from users and potential users.

By the end of the second quarter, February 1976, significant progress had been achieved in converting pilot project sites to regular users, in developing programs for specific potential users, and in general dissemination of information regarding WOIS. Seventeen schools and agencies had become active users. The entire existing user group was converted to the Washington information base by the end of January. The WOIS User Handbook was printed and distributed to users in January as well. Marketing activities increased significantly as this system became fully operational and awareness of the system increased. About one-third of the User Services staff time was devoted to servicing and improving operations of current users and about two-thirds to developing new business. During this period of time, about one-half of the new business effort was devoted to presentations and demonstrations and about one-half to program planning, budget planning and general consultation with potential users. Later in the year it was found that training occupied a more significant portion of staff time. Those implementing a new system will find that these activities follow a cyclical pattern of, first, marketing, then training, and then back to marketing to new users.

WOIS was successful in converting community colleges who had participated in a pilot program the previous year to regular users. Additionally, some new agencies were added, including schools, correctional institutions, and Employment Security.

By the end of the year, there were 14 community colleges, 3 school districts, 1 four-year college, 1 Employment Security office, and several social service agencies using the WOIS. Commitments for the next school year are as follows:

1976-77 USERS

AGENCY	NUMBER	POTENTIAL USERS
Colleges	3	14,014
Community Colleges	18	38,798
Schools	8	14,913
Social Service Agencies	5	2,300
Other	1	250

WOIS became convinced that the way to plan to introduce a program to an agency group is to first plan a pilot year for that group. That is, the first year would be an experimental or pilot year for schools; then, in the second year, one would expect a number of schools to join as regular users; and, in the third year, one would expect to get reasonably wide coverage of that particular agency group. In the Washington situation, a number of community colleges had pilot tested Oregon's system the previous year, thus they were in a position to move ahead and become regular users this year. Next year, WOIS expects to enroll almost all of the community colleges throughout the state. This has been an initial year with high school population, serving primarily Bellevue, Longview, and Vancouver. Next year Everett and Clover Park will be added at the beginning of the year, followed shortly by several other districts. Our largest area of growth during this following year will be from school systems.

The fee schedule for the 1975-76 year was based on 25¢ per potential user. The potential user was defined as an agency's FTE number. For example, if a school had an FTE count of 1,000, their fee to WOIS would be $250. This was a workable arrangement with schools and colleges but was difficult to apply to non-educational agencies. For 1976-77, the User Advisory Group recommended, and the WOIC Board approved, a fee change. WOIS will charge 35¢ per daytime, on-campus enrollee. An agency will have a minimum fee of $150 and a maximum of $1,500. This fee schedule is designed to meet two objectives: first, the $150 minimum provides a sense of participation and a partial reimbursement to WOIS for training and consultation services; and second, the $1,500 maximum does not penalize large organizations who wish to experiment with the system during the year. The major fixed cost to new users is the acquisition of a computer terminal. This is a factor in a situation where an agency has not budgeted for the WOIS. It appears that operational funds can be obtained for computer time at least for a pilot program, but the hardware cost and user service fee are a deterrant to short-term trials. It is suggested that states using the Oregon type system consider obtaining a number of terminals to be rented or loaned to pilot and trial states for short-term use or make arrangements with vendors to provide rentals on a short-term basis.

During 1976-77, WOIS will build upon the successful aspects of this year's marketing effort. We will continue to hold large group conferences and demonstrations and follow these with on-site demosntrations, training, and trial use. While the statewide meeting was effective in getting the program started, it is believed that in the second year, it will be more productive to start the marketing program with six regional conferences. The system is already known throughout the state, and a core of people can be developed to work with the staff in the regional conferences making them more effective than a general statewide meeting. This type of introduction is extremely effective and efficient for both WOIS staff and for potential users. In a half-day session, several potential users can learn about the system, understand its benefits and limitations and costs, and determine whether it is productive for them to pursue it or not. They can then work with the WOIS staff in tailoring a specific demonstration and trial period for their school district or agency. Toward the end of 1975-76, it was found that it is most helpful to have a current user serve as co-host for these conferences. In this way, the WOIS User Services Specialist becomes a partner in the development of a new program rather than an outsider attempting to "peddle" a new system.

B. IN-SERVICE TRAINING

One of the most important elements in a successful program is effective training of local staff to use the occupational information system. McKinlay lists three related steps in planning initial in-service training. First is a determination of the short and long-range needs of the participants. Second, one must consider the dynamics of the group and the physical setting in which the meeting will take place. Third, opportunity must be made for participants to express their feelings about the workshop (see Bruce McKinlay, Developing a Career Information System, Final Report Contract No. 82-41-7203, U. S. Department of Labor, p. 127). Based upon McKinlay's work and to meet our own needs, WOIS developed two in-service training programs. These are shown as Appendices C & D.

The first session is an initial training session for both counselors and terminal operators. It is designed to permit local agency staff to become immediately operational with the system. While the settings vary, and the interests of the participants are often divergent, the User Services Specialist can quickly learn to adapt this particular outline to any situation. Following this session, including hands-on training, agency personnel were able to begin utilizing the WOIS. This session was typically followed with several on-site visits to counsel with those using the service. Telephone calls were encouraged whenever anyone had a problem. While the amount of follow-up consultation varied with each staff, its familiarity with automated systems and interests, it was found that an intensive period of two or three visits over a two week period was sufficient for most agencies. Occasional phone calls were received when users discovered a problem or when a new counselor or terminal operator tried to use the system. Each agency was visited at least once a month to answer questions and to discuss new developments.

Following the initial training and after some experience with the system, users were in a position to benefit from the second training session which is longer and more highly detailed; it goes into philosophy, structure, and content of all the information files and presents suggestions for more sophisticated use of the system. This second version is designed primarily for professional staff members as opposed to terminal operators. This session should be held off-site and preferably include three or four user agencies so that there can be a mutual sharing of experiences and questions.

Additional training was provided during the quarterly meetings of the User Advisory Group, through the WOIS newsletter, and through occasional bulletins explaining new procedures. Finally, staff members actually developed the skills necessary to train some people over the telephone. Users' natural enthusiasm for the system sometimes lead them to try to demonstrate the program in remote parts of the state before they had adequate training themselves. It was not unusual to get a telephone call from someone at a distant high school or career fair saying, "How do I make this thing work?" Although the help given at such times was no substitute for thorough in-service training, these experiences certainly sharpened the staff's ability to clearly and concisely explain the terminal operations aspects of the WOIS system.

Training sessions this year were primarily for computer-based system users. Providing a terminal for hands-on experience was absolutely necessary. For those learning how to use the needle-sort system, it would be highly desirable if each participant could have a needle-sort deck.

C. MAINTENANCE AND FEEDBACK

Maintenance of user skills and exchange of information between users and WOIS are essential and corollary. The major means of maintaining user agency skills is through a monthly visit by one of the systems service specialists. On each visit, the specialist determines how well users are utilizing the system, discusses problems they are experiencing, answers questions they have, and provides leadership for more effective system use. As noted above, also utilized for this purpose were the User Services Advisory meetings and the regular WOIS newsletter. All State agencies and most major non-state governmental and educational institutions utilize a state telephone network. This encourages users to contact WOIS whenever they have a problem.

Most of the operational problems encountered by users centered around the communications facilities of an interactive computer network. At first there was some difficulty isolating whether the problem was a system problem or a communication problem. As the computer systems were refined and users gained more experience, they were able to determine whether it was a problem which should be relayed immediately to the computer center or one that should appropriately be handled by WOIS staff. However, the User Services group maintained a daily log of computer errors for analysis with the computer center. Computer center people were also invited to each of the User Advisory meetings which resulted in much improved communication and resolution of problems.

Non-operational matters such as fee schedules, system content, staff support, and long-range planning were effectively handled through subcommittees of the User Advisory Group. WOIS has an extremely effective User Advisory Group headed by the former chairman of the community college pilot system study. It cannot be urged too strongly that any state seeking to introduce an OIS organize such a group and encourage it to develop its own leadership.

If an OIS is to be successful, it must be the users' system and user directed. The development of an effective working relationship with such a group is absolutely essential to the success of any program. WOIS has that relationship, and the user group will be highly influential in expanding our services during the next school year.

D. SUMMARY

The WOIS User Services staff had a most successful year. Among the accomplishments were the following:

1. recruiting and training of three professional staff members;
2. meeting and exceeding market projections;
3. establishment of an effective and viable User Services Advisory Group;
4. development of a regular newsletter;
5. development of an effective feedback mechanism to users including 24 hour turn-around on problems;
6. development of both a basic and advanced in-service training module; and
7. creating an awareness throughout the state among professional groups, schools, and agencies regarding the benefits of the occupational information service.

V

PROCESS EVALUATION[1]

INTRODUCTION

PURPOSE

The intent of this process evaluation is to present descriptively, yet briefly and concisely, sufficient evidence for the National Occupational Information Service (NOIS) to determine whether Washington Occupational Information Service (WOIS) in its implementation of an Occupational Information System (OIS) in the state of Washington has met the expectations relative to the Occupational Information Systems Grants Program Standards and Guidelines. No attempt has been made to present a technical analysis of data gathered from a formal assessment using standardized instruments and statistical sampling techniques. This presentation, in general, will follow the "common framework" made available to the grantees by NOIS (see "Process Evaluation Plan for assessing OIS Implementation"). Specifically, it seeks to address three areas of concern: system development, system utilization, and system influence.

BACKGROUND

Pilot Project. During the academic year 1974-75 (pre-WOIS), the Washington State Board for Community College Education and the Counseling and Guidance Directors' Association of Washington Community College Education combined efforts to make available Oregon's Career Information System for use in Washington community colleges. Some editing of the information files was accomplished to make it more appropriate for use in Washington; the education file received the most attention. During this period of time, approximately 4,000 students used the system in eighteen different sites. Questionnaires administered to 300 individuals on four campuses yielded the following results:

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[1] Based on Process Evaluation document from NOIS and the Standards and Guidelines.

How satisfied are you with your experience with CIS?	Lots Some None	59% 34% 7%
Did the list of occupations given you on QUEST include ones that you had not thought of before?	Yes	71%
Did you want to investigate any of them?	Yes	69%
Did QUEST help?	Lots Some None	42% 51% 7%
Did the description of an occupation give you a better understanding about the occupation?	Yes	79%
Do you know how and where you can get training for this occupation?	Yes	78%

Experience with this pilot project did a number of things:

(1) it formed a strong base from which a formal proposal could be submitted to the Department of Labor;

(2) it aided in making an early decision to use the CIS model for implementing a career information system in the state of Washington; and

(3) it provided lead time for some educational institutions to budget funds for early subscription to WOIS services.

Program Activity. Beginning with a number of interagency task forces formed to address manpower planning concerns, there emerged a group of individuals representing key institutions in the state of Washington who are organized under an interlocal cooperative agreement to sponsor the proposal to implement an occupational information system, which was submitted to the Department of Labor in January, 1975. Once this proposal was formally approved (August, 1975), this group began the process of selecting a director and formally organized an inter-agency policy-making consortium. This consortium consists of representatives from the Office of the Governor, the Commission for Vocational Education, the Board of Community College Education, the Superintendent of Public Instruction, the Council of Postsecondary Education, and the Employment Security Department. The heads of these agencies or their designees serve as the Board of Directors responsible for the implementation of the program. The newly appointed director immediately set out to select, from within the state, experts in the field of information development and user services and to obtain a qualified administrative assistant.

A decision was made to adopt as an initial step the Oregon CIS delivery system for disseminating occupational information within the state of Washington. The pilot study had demonstrated user receptivity, and an analysis revealed that the information developed by Oregon was targeted to individuals in the process of career exploration and decision making.

During the first quarter of project activity, additional staff members were hired: (1) to collect and appraise existing occupational information from a variety of sources and to prepare it in a format and style appealing to a wide range of potential users, and (2) to market the developed information and provide training for subscribers from the educational and social service agencies of the state. As these staff members were hired, in-service training was provided to acquaint them with key personnel within the state, to orient them to the Oregon method of developing and disseminating occupational information, and to the grants program. The current line-staff chart is seen in Appendix A.

Reporting Procedures. A first year plan was developed for implementing an OIS in the state of Washington. This plan took into account the required quarterly reports which indicate WOIS progress relative to the Standards and Guidelines. These reports form the basic scope of this annual report and provide the content for the major portion of this process evaluation. The first half of the grant year was devoted to:

(1) developing an organizational structure and staff;
(2) developing the first year plan of action; and
(3) preparing and disseminating occupational information.

After the Washington system was made available to local users, a mid-year correction was made in the first year plan, and a project evaluator was appointed. Plans were made by the evaluator for conducting a process evaluation, an impact evaluation, a needs assessment for research projects reflecting special labor market and career guidance concerns, and to develop an alternate access strategy (GATB/ICL). Based on instructions from NOIS, the more formal evaluations were targeted for 1976-77 with the less formal and more descriptive evaluations comprised largely of quarterly reports and evaluation plans targeted for the 1975-76 grant year.

I. SYSTEM DEVELOPMENT

OBJECTIVE A

State/local occupational information system is developed which compiles, appraises, and disseminates current, accurate, comprehensive, and locally relevant occupational information from a wide variety of sources for a wide range of potential users.

Criteria 1: Information reflecting statewide and one or more local areas within the state (SMSA)

The 227 occupations listed by WOIS are classified according to the functional system developed by Oregon's CIS. Oregon selected the occupations using the following criteria:

1. they include all the large sources of employment;
2. they represent a wide range of economic functions and industrial attachments in Oregon and the region; and
3. they reflect the interest of users.

Oregon found that their listing of occupations encompassed approximately 3,000 jobs representing 90% of the employment. Our analysis (see Second Quarter Report) indicates that Washington is much more like Oregon than was initially thought. We, therefore, deduce that our list of occupations would encompass approximately 90% of the employment in Washington plus or minus 5%. Although our occupational information is targeted specifically to the state of Washington, we do reference appropriate pages of the Dictionary of Occupational Titles and the current (1976-77) edition of the Occupational Outlook Handbook in our Bibliographic file. This, then, provides the user seeking national information some assistance. WOIS does not currently contain occupational information localized to the SMSA level (except for the visit file); this is planned for 1976-77.

The 229 programs of study and training listed by WOIS are classified according to the Oregon CIS (Hegis) system. These programs represent a major portion of all of the programs offered by the public and private colleges and universities, the community colleges, and the vocational-technical institutes in the state. A few of the proprietary schools were also included. Seventy-five of the programs (college and university related) were converted from the Oregon CIS. The remainder of the programs listed in WOIS (including community college, vocational-technical institute, and proprietary school) were obtained from the Commission for Vocational Education, the Office of the Superintendent of Public Instruction, and the State Board for Community College Education and adapted to the CIS classification system. These programs, by their nature, are limited to the state of Washington and have been localized to the SMSA level by identifying the educational institutions in each of the SMSA's.

The standards for writing style, format instructions, and file descriptions are identical to that which is described in the CIS document, Developing a Career Information System, in pages 59-67 and 98-124. Briefly, then, the statements are concise, brief, and straightforward; the focus is always on accuracy.

The following types of information are currently available in WOIS:

1. QUEST: an introductory questionnaire which helps individuals explore occupations related to their self-assessed interests and abilities.

In a more technical sense, it is a sorting process. QUEST is available in WOIS for only the computer version. The needle-sort version will be ready for the starting of school in the fall (Appendix E, Exhibit 1).

2. Occupational Description statements are brief summaries of duties, working conditions, qualifications required, earnings, and market outlooks (20-25 specific items per occupation) for the 227 occupations contained in the WOIS system. Locally relevant labor market information sections are continuously updated. These descriptions are approximately 300 words in length and prepared for the secondary school students' reading capability (Appendix E, Exhibit 2).

3. Occupational Preparation statements specify the preparation necessary for entering the occupation and alternate routes such as apprenticeships, on-the-job training, education and licensing requirements (Appendix E, Exhibit 3).

4. Bibliographic references refer the user to the most pertinent publications for each occupation. Such references as the Dictionary of Occupational Titles, the Occupational Outlook Handbook, and the Directory of Washington Manufacturers are most frequently cited (Appendix E, Exhibit 4).

5. Visit file materials include names of local employees available to discuss their respective occupations with interested users of the system. Presently there are 179 persons representing 141 occupations in the Tacoma area who have agreed to participate in this venture. (These materials are prepared but, to date, have not been incorporated into the data base; the format follows the CIS sample (Appendix E, Exhibit 5).

6. Educational Program statements describe the various programs of study and training in the state of Washington and specify the schools (public and private colleges and universities, community colleges, and vocational-technical institutes) where the training can be obtained (Appendix E, Exhibit 6).

7. Detailed School file will contain information which will enable users to compare specific types of detailed information from schools listed in WOIS relative to services provided, training costs, and demographic characteristics. These data are currently being compiled but are not accessible to the user population.

8. Attribute file contains the attribute codes (over 15,000) which are used to process the QUEST questionnaire and to provide the diagnostic response to "why not" (Appendix E, Exhibit 7).

Criteria 2: Compilation of Occupational Information for Storage and Retrieval

There seems to be an abundance of occupational and educational information sources in varying degrees of accuracy, currency, comprehensiveness, and of local relevance. The Information Development staff began immediately to identify and collect information related documents. Their major reference sources were the CIS document, Developing a Career Information System, and Washington's project proposal (see the WOIS proposal). These documents were then organized functionally in a staff resource room (Appendix E, Exhibit 8). There is no current matrix format (see WOIS' original proposal) rather a list is incorporated (pp. 9-13 of the Annual Report) to indicate the documents WOIS staff found most useful in converting Oregon information for use in Washington.

To provide accurate, current, and comprehensive information for local users, WOIS staff rely on:

1. review panels to provide localized input;
2. personal contacts to locate and secure unpublished materials; and
3. NOIS to assist in procuring BLS and DOL documents.

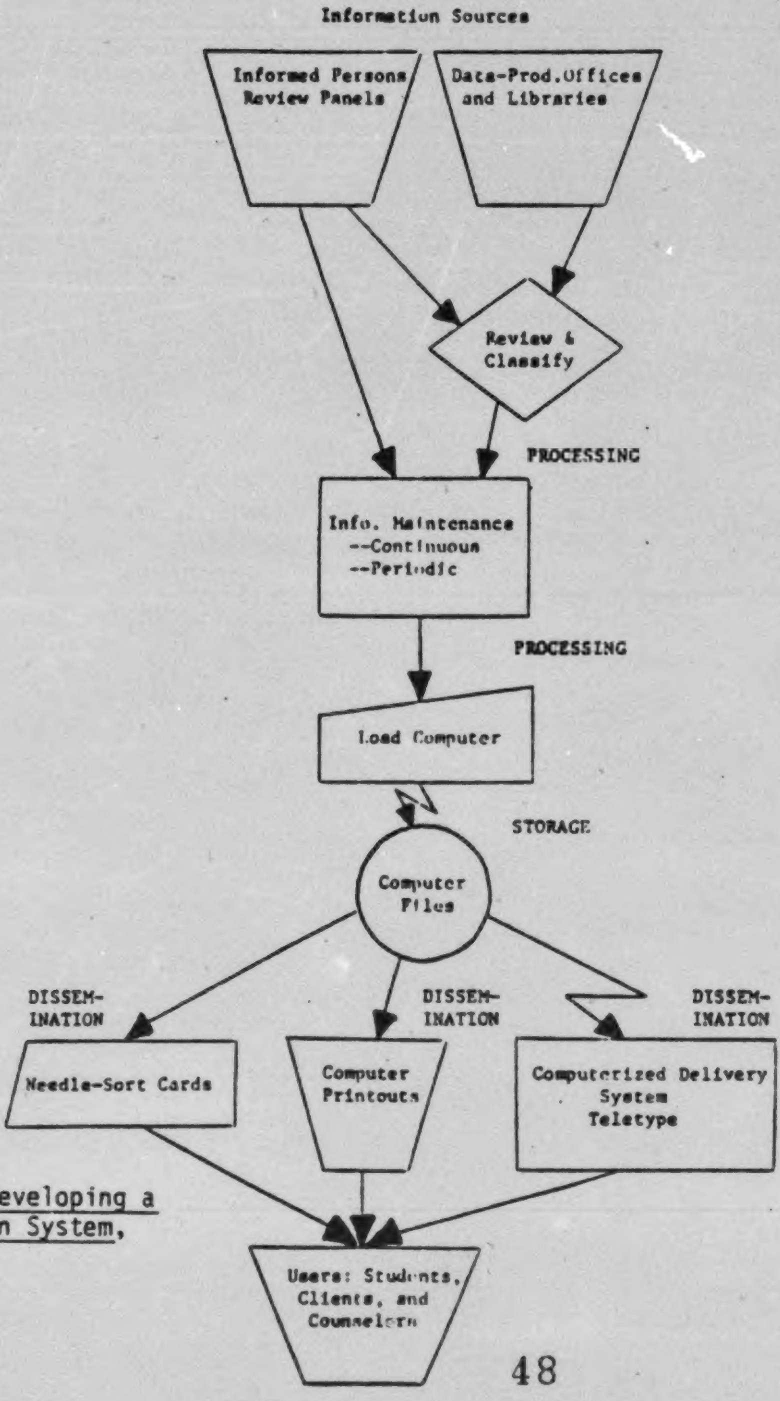
In addition, last year, WOIS spent approximately $500 for subscriptions and $1,000 for additional library books and materials to provide staff with support materials. The following procedure has been adopted to keep WOIS on-line information current and accurate:

1. immediate or weekly updates for rapidly changing and inaccurate information,
2. monthly updates for information that changes periodically throughout the year, and
3. annual update from revisions, system changes, and the extensive reviewing of existing information.

Wage data sources are compiled on the Wage Worksheet (Appendix E, Exhibit 9), a back-up support for charges and for estimating the wage for an occupation. Review cover letters and questionnaires (Appendix E, Exhibit 10) are used to elicit responses to existing and newly developed information. Suggested changes are evaluated and then changes made. Other changes occur by information specialists examining published and unpublished sources. When pertinent information is located, one of the Source Record forms (Appendix E, Exhibit 11) is completed and filed for periodic or annual updating. In addition, informal information may be received over the telephone or during general conversations. This information is recorded on the Contact Record form (Appendix E, Exhibit 12). For updating the Visit file, local institutions or agencies either mail in or telephone in changes or additions. This information is recorded on the Visit file information form (Appendix E, Exhibit 13). Basically, the forms developed by CIS have proved to be very functional for developing and updating the WOIS occupational information files. The flow of information is as follows:

WASHINGTON OCCUPATIONAL INFORMATION SYSTEM

Information Flow Chart[1]


Information Sources
Informed Persons Review Panels
Data-Prod. Offices and Libraries
Review & Classify
PROCESSING
Info. Maintenance --Continuous --Periodic
PROCESSING
Load Computer
STORAGE
Computer Files
DISSEM-INATION
DISSEM-INATION
DISSEM-INATION
Needle-Sort Cards
Computer Printouts
Computerized Delivery System Teletype
Users: Students, Clients, and Counselors

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[1] Bruce McKinlay, Developing a Career Information System, 1974, p. 70.

Criteria 3: Appraisal of Occupational Information by Review and Analysis of the Information and Procedures

In view that McKinlay (Developing a Career Information System, pp. 73-85) had conducted extensive evaluations of the CIS information relative to user comments (satisfaction) and content comparisons with another model information system, it was felt that replication was not necessary during the first year of project activity. However, WOIS, as part of an impact evaluation, does plan to evaluate user responses to WOIS information and to compare WOIS information with another computerized career information system in the state of Washington during grant year 1976-77.

Prior to putting WOIS information on-line in January 1976, the occupational information was subjected to a review process utilizing specialists in the occupation. Later in the year, a review panel process was developed and initiated. This process proved to be time consuming and will not be completed until the end of the second year of the grant. Through an informal feedback process, User Services staff members have consistently received high praise for the information developed and satisfied responses by users of the system.

Criteria 4: Occupational Information Dissemination

The effectiveness and attractiveness of the WOIS system is directly related to the effectiveness and attractiveness of the CIS system in numerous evaluations conducted in Oregon. The attractiveness and effectiveness of the WOIS system is best seen in the users' desire to keep their printouts. It is rare to find user agencies using any equipment other than the teletype terminals. The effectiveness and attractiveness of the WOIS system will be assessed in 1976-77 by a formal impact evaluation. Users have consistently said that the system is fun to use and easy to understand. They have also expressed satisfaction in that the system provides information that is relevant and timely.

In order to make the system easy to use, WOIS has ardently held to the simplified approach maintained by CIS. WOIS has developed a User Handbook and a Questions and Answers document; the former assists the students and the latter assists counselors and technicians who assist users. WOIS has found that users have been able to operate the WOIS system with a minimum of instruction. User assisters, having used the simplified logon procedures at The Evergreen State College, found the Eastern Washington State College initial procedures extremely difficult. This situation has been rectified; the present logon procedures have been simplified. User feedback (informal) has been that QUEST and description statements are "easy to understand"; students actually prefer to use the system on their own.

The central element of WOIS is the computerized information system which provides a printout of relevant file information. Users having Cathode Ray Tubes (CRT) have the capability of a visual display only. In addition, a needle-sort version has been developed and has been submitted for printing but will not be available to users until fall quarter, 1976. Hard bound copies of the occupational information contained in the system have been printed for use with the needle-sort access system. Alternate access and dissemination methods (such as GATB/ICL and microfiche) will be evaluated for possible adaption in 1976-77.

Computer terminals were the primary delivery vehicle for WOIS during 1975-76. This system is also designed to accept any TTY compatible terminal including CRT's.

The WOIS system provides hard copy computer printouts to each user at no extra charge to the individual.

Relative to housing and updating capability, WOIS information and programs are stored on a medium scale multi-use Univac System 7 housed at Eastern Washington State College. WOIS information is programmed in Assembler language and is maintained by Eastern on a full-time basis. Additional space of several million characters is available on notice, and the system is expandable far beyond anticipated use by WOIS. Included in the WOIS system is an update program that permits on-line updating of information. Files updated during the day can be made available to users the following day. Oregon CIS has their information available in Hewlett-Packard (HP) Basic OIS and in Xerox Fortran version. In an emergency, these variations could be used with very little effort required except for updating the files.

Retrieval of information is immediate. Users desiring information, interaction, or diagnostic data can, by using the appropriate description codes, gain immediate access to information stored in the computer data bank. Information specific to the user (ungrouped information) is never retained in the system after the user has logged off.

The WOIS system permits users to obtain both occupational and educational information directly or by using the structured search approach. Direct access is accomplished by typing in the command "DESC" and the four digit occupational or three digit program number (see User Handbook). Conversely, a user may use the structured approach, "QUEST" which presents the user with a list of occupations which can be used as a basis for further exploration.

QUEST (the structured access approach) provides the users with a method of sorting occupations by worker traits. By answering the QUEST questions, the user expresses his preference for certain job characteristics: physical requirements, location, education and training, aptitudes, interests, and earnings as they relate to the 227 occupations contained in WOIS. After answering these 24 questions, if desired, the user can make changes which will result in a different list of occupations to explore. The user may also inquire why a particular occupation did not appear by merely entering the command "Why Not" and the appropriate occupation number. The system then produces a list of answers which eliminated the occupation from the list.

The WOIS system operates without the use of personal data; users enter only first names and then respond to QUEST. There is no permanent association of any kind made with such a name. Records are maintained as to the number of responses to QUEST questions and of inquiries to the occupational and educational program files, but no information is gathered or maintained on individual users.

Computer terminals are found in many divergent settings. Typically the terminal is available as part of career guidance and instructional programs at user sites. All users, however, make the system available for independent use. High school students generally learn about the system in a class, from a counselor, or from other satisfied students; they frequently request specific occupational printouts. It is not unusual for them to schedule independent time on the terminal or to work with a counselor for follow-up. Community college students usually schedule time on the system and may or may not be involved in a formal program. Social service agencies, such as the Employment Security Department, tend to emphasize walk-in use.

WOIS information is generally accessible for both day time and night time use and on week-ends. Students and agency clients, though, rarely access the information outside of the regularly scheduled day.

Washington has encouraged and participated in the sharing of information descriptions with other participating systems.

During 1975-76, delivery costs were regarded as feasible for user agencies. Computer system time was sold at $3.50 per hour. Terminals were leased at $100 to $150 per month (purchased for about $2,300). Thus, a high school could operate the system for about $5,000 the first year. This seems to be within the current range of ability of users to pay, particularly when they have sufficient time to budget ahead for the service. The thrust of the WOIS financial plan was to build the base for user agency support at the local level. The feasibility of state level funding will be explored during grant year 1976-77.

Criteria 5: Adequacy of the Information

The adequacy of WOIS information, as perceived by clients, counselors, teachers, and significant others, was determined on an informal, yet structured, basis. User Services staff members listened attentively during demonstration sessions and other field contacts, maintained a log of counselor concerns and complaints, and established and maintained an ongoing User Advisory Group. The perceived adequacy and quality of the information content and format have consistently received very favorable responses. The computer logon procedure at Eastern Washington State College generated some unfavorable responses, but that has since been rectified. Likewise, there have been numerous telecommunication and technical problems, not unusual in establishing a new telecommunications network statewide. In addition, problems of converting from Hewlett Packard Basic (CIS) to Dartmouth Basic (EWSC) lead to a decision to use Assembler language. Once these difficulties were overcome, users were able to respond favorably to the ease with which the various information files can be accessed, and to the ease with which the delivery system can be used. Our experience has been that the system generates a great deal of student interest and excitement. They can generally operate the equipment and the system independent of supervision (after logon). Users insist on retaining the printouts and have reported them as being helpful and useful.

WOIS is currently developing instruments, has selected five test sites, and plans to conduct an impact evaluation during grant year 1976-77 to assess, among other things, user responses to: the adequacy of the information; its readability and understandability; user access difficulties; and the ability of the system to generate occupations related to perceived likes, dislikes, values, and skills.

OBJECTIVE B

Achieve a cost-feasible occupational information system which is within the resources of user agencies to maintain.

Criteria 1: Be fully supported by user agencies by the termination of OIS grant funds

The total population for the state of Washington (1975) was listed by the Population Studies Division of OPP&FM (Governor's office) as being 3,494,124. Although the services provided by WOIS are addressed to all residents of the state of Washington, there is an obvious benefit to the following groups:

GROUP	NOV. 1975 POPULATION
Middle Schools/Jr. High Students	211,621
Secondary School Students (Grades 10-12)	195,235
Vocational-Technical Institutes	82,680 (Est)
Community Colleges (full-time day students only)	81,000
Public Colleges & Universities	78,182
Private Colleges & Universities	23,734
Employment Security Offices	
persons requiring job services	20,000
persons who looked at services	2,500
persons who filed unemployment insurance claims	25,000
Correctional Institutions	
Adult	3,783
Juvenile	948
Parole (active cases)	1,296
Probation (active cases)	9,361
Seattle Rehabilitation Center (Labor and Industries)	71
Vocational Rehabilitation	17,000
TOTAL	751,911

(NOTE: Grant proposal estimates were listed as 943,422)

The first year efforts were targeted for 100,000 users. During the grant year 1975-76, twenty-three schools and agencies contracted for WOIS services. These schools and agencies represented 103,980 potential users even though the contracts were written for 51,089 users.

The estimated budget for WOIS (First Year Plan) was as follows:

Salaries	185,470
Contractual Services	31,000
Supplies	16,000
Equipment	11,000
Travel	15,000
Indirect Costs	40,750
TOTAL	299,220

(NOTE: The actual budget expenditures were not available at the time of the writing of this report).

Delivery system costs are the same for all educational institutions but vary somewhat with social service agencies. To estimate delivery system costs (costs to users), the following information is used by the User Services staff:

(1) One terminal serves 2,000 users (180 days x 6 hours per day x 2 users per hour);

(2) When purchasing equipment, a terminal costs $100 per month when prorated over two years;

(3) Maintenance, paper supply, and fringe costs will approximate $300 per year;

(4) Installation and line costs for the telephone average $300 per year;

(5) Connect time (on-line) to the computer is $3.50 per hour; and

(6) The WOIS service fee to schools and agencies was $.25 per user.

Using the foregoing data for calculation, delivery system costs to users would equal $2.90 per student user per year, when the terminal is maximally used. Social service agency costs per user were slightly less.

Non-delivery system costs (WOIS) per capita can be derived by using a number of methods:

(1) grant costs per resident (potential users) were $.09;

(2) grant costs per benefit groups (schools and agencies) were $.40;

(3) grant costs per target potential user were $2.88 and per contracted user were $5.86;

The actual number of individuals using the WOIS for grant year 1975-76 is not known.

OBJECTIVE C

Develop and train a nucleus of competent state/local area OIS personnel capable of providing staff support for information development and user services activities.

Criteria 1: In-service training for Information Development staff

As indicated in the quarterly reports, Information Development staff received training to develop their skills in information gathering, analyzing, and preparation by the following means:

(1) training from supervisor based on NOIS conference;

(2) meetings with State Employment Security and field office occupational analysts;

(3) training sessions by Oregon CIS; and

(4) courses and conferences conducted by labor market economists.

As a result, Information Development staff developed descriptive information for 227 occupations and 229 educational training programs.

Criteria 2: In-service training for User Services staff

User Services staff have received training for marketing the system from:

1. NOIS conference,
2. Oregon CIS personnel, and
3. Contact with other OIS states.

The success of their training is evidenced by the 23 contracts they had signed during the first year of grant activity, and the numerous items developed to enhance public relations and in-service training of contracting schools and agencies: User Handbook, brochures, newsletters, etc.

For a comprehensive list of User Services demonstrations, a detailed treatment of the in-service training program, and their follow-up/feedback strategy, see Appendix B. This approach has been well received and has been continually improved as the result of interchange with the Oregon CIS personnel.

II. SYSTEM UTILIZATION

OBJECTIVE A

Provide user agencies with specific services and tools to increase the utilization of occupational information in career education, employment counseling, and manpower and educational planning.

Criteria 1: Various activities provided by WOIS to user agencies

For a comprehensive report on the number of system demonstrations, in-service training sessions, and conference activity, see Appendix B. Outlines used in the training sessions are shown as Exhibits C and D. These activities are generally held in educational institutions (secondary schools, vocational-technical institutes, community colleges, private and public colleges and universities), social service agencies (Employment Security, correctional institutions, and rehabilitation services), trade organizations, professional conferences, social clubs, and in-service training sessions (public school system).

User Services staff has developed a system to log concerns and complaints registered by users relative to the delivery system, information developed and services rendered, but no representative sample or organized evaluation effort has been conducted. A needs assessment is planned for grant year 1976-77 to determine needs of users and user agencies for occupational information, delivery mode, and services. Consulting services are also available by WOIS staff (User Services staff in particular) for schools interested in developing a career resource room.

Criteria 2: Increased usage of occupational information in counseling, teaching, and planning

Studies utilizing representative samples to determine increase in occupational information usage have not been conducted. WOIS has examples where employers have used WOIS occupational descriptions for jobs they have open, and where teachers use WOIS information in class presentations as well as student assignments. Many counselors have pressured WOIS for the needle-sort system to teach students about worker traits. Educational training program forecasts, unique to Washington, are being incorporated into WOIS. These data should help WOIS in relating to the needs of program planners.

OBJECTIVE B

Achieve sufficient dissemination of occupational information through each state system to insure exposure to substantial numbers of persons in need of such information.

Criteria 1: WOIS, by the end of three to four years, to have the capacity to service two-thirds of the high school students

WOIS has developed a five-year plan which anticipates reaching 80 percent (160,000) of the high school students of the state of Washington in four years. This will be in addition to other potential users in educational institutions and social service agencies. WOIS operates its computer services from Eastern Washington State College which is one of four State Data Processing Centers in Washington, thus, providing telecommunication capability statewide. In addition, WOIS anticipates having a needle-sort access system available for users throughout the state. It will appeal particularly to high school students.

With maximum use (180 days, six hours, 2 students per hour) a terminal could handle 2,000 students per year. A random sample of users for the month of March (2 high schools, 2 community colleges, and 1 educational center) resulted in an average usage of 105 hours per month or 5 students per day. These schools were all using the computer access to WOIS information.

Criteria 2: Have capacity to reach 80% of students in each high school served by WOIS in second year

At the present time, it is not known which high schools will be contracting for WOIS services.

Criteria 3-6: Student Survey

Records will be kept during the second year to enable the completion of Table 1 of the process evaluation guide (numbers of students enrolled, demographic and ethnic mix, type of delivery equipment, number of hours available, and student survey to determine student's perception of accessibility).

NOTE: It was our instructions (from NOIS) that a process evaluation would not be required the first grant year. Notice of this change in directions did not leave time to conduct a student survey, especially during the summer months.

III. SYSTEMS INFLUENCE

OBJECTIVE A

Establish effective cooperation between key state agencies and the OIS in the development, refinement, and utilization of occupational information.

A Board of Directors (WOIC) has been developed and is functioning in a cooperative manner as reflected in the Board minutes. The Board has formed a number of subcommittees to assist WOIS staff members and has facilitated securing pertinent information for the development and dissemination process. Forecasting materials are currently being incorporated in WOIS information components which will be helpful to manpower and program planners at the state agency level. This should encourage increased usage of WOIS services.

RECOMMENDATIONS:

WOIS, like any new or developing organization, has had problems to solve. The rewards of the accomplishments, though, far surpass the difficulties encountered. The second year plan reflects adjustments that have had to be made.

Information Development

One of the major difficulties faced by the Information Development staff during 1975-76 was their inability to complete the first year plan; namely, in the developing of new occupations and in the conducting of a formal review process. This, as it turned out, was a very aggressive plan; a mid-year correction was necessary to bring the plan into focus. The optimistic planning is felt to be the results of: (1) having had a community college pilot study use CIS (this primed them for immediate Washington information); (2) having a staff of information development specialists without specific training in developing occupational briefs (experienced personnel were simply not available in the State of Washington), and;(3) there was a definite need for time to collect and appraise information for its reliability before preparing descriptive information. We found that a considerable number of the secondary sources were out of date in Washington. Information developers, also, found it very time consuming and awkward from the state level to develop a Visit file. It became clear that Visit files are a local necessity and for local benefit. Thus, it was concluded that Visit files should be developed and maintained at the local level with WOIS serving as an assistor or consultant.

The other major difficulty encountered was in developing the detailed school file. The organization of the school topics list and the method Oregon used in collecting the data was resisted by agency personnel at the state level. Considerable time was spent in reorganizing the detailed school file; thus, the completion date was extended into grant year 1976-77.

Recommendation: For those interested in implementing a CIS, WOIS Information Development staff found that much more time, than planned, was required for: (1) in-service training, (2) acquiring, analyzing, and organizing data sources, (3) developing annual and long-range plans, and (4) conducting a review process.

User Services

One of the major difficulties encountered in the marketing process was having adequate lead time to work the process of becoming part of a local school budget. The grant was finalized in August, and by the time WOIS was ready to market information, the final budgets had been submitted without provision for WOIS.

Another difficulty was found in estimating, for the data processing center, the specific agencies that could contract for WOIS and their computer usage. This made the establishment of adequate telecommunications difficult and meant some delay for users who were anxious to use the system. The third problem centered around devising adequate means to reach all the potential residents with news about WOIS. Newspaper articles, demonstrations, TV spots, brochures, newsletters, and professional and trade organization contacts were made, yet numerous people are still unaware of WOIS.

Recommendation: For those interested in implementing an OIS, WOIS User Services staff found that better techniques need to be devised to estimate system usage during start up and to predict lead time necessary for start up needs, such as installing telephones and ordering equipment. Ample time needs to be planned for working the system to get into school and agency budgets. In addition, time and money need to be devoted to mass media techniques of reaching potential users once the system has been tested and ready for service. In short, the process of demonstrating, selling, installing, and debugging the occupational information system was one that required far more time than initially perceived.

Delivery System

The first difficulty encountered in the delivery system was that in shifting from The Evergreen State College (TESC) computer (Hewlett Packard) which was too small to the Eastern Washington State College computer (Univac System 7), the programs had to be converted from Hewlett Packard Basic to Dartmouth Basic. This created some delivery system problems. WOIS then had the programs converted to Assembler language which has resolved the problem. EWSC is the latest data processing center for the state system, and they are still in the start-up mode as a service center. Thus, the extra needs of WOIS for conversion and telecommunications created a work load problem and cost commitment concerns by the State data processing authorities. There were early difficulties in transcription from WOIS, but with the changing of language, these have been largely overcome. Likewise, logon procedures for users have become more manageable.

Recommendations: For those interested in implementing a CIS, WOIS systems specialists have found that the complexity of installing a delivery system (language conversions, computer linkage network, transcription) necessitates planning and an allocation of time for debugging problems. Too frequently computer complexities are over-simplified and glossed over. Our specialist recommends that the computer system be tested thoroughly before attempting to bring users on-line.

Management

One of the first difficulties presenting itself was developing a workable consortium board. Policy making representatives of key institutions (educational institutions, social service agencies, and manpower planners) come with the concerns and interests of their agencies. Conflicts that evolve must be resolved so that progress is made toward disseminating quality occupational and educational information.

Another difficulty that arose was the task of establishing objectives:

(1) User needs - What are their real needs for occupational information, and are they the same for all ages?

(2) Become a self-supporting system in four years - What is the best method of and source for generating revenue for WOIS?

(3) Providing information for educational and manpower planners - What type of information is most helpful to them and whether WOIS should (could adequately) provide such information.

Recommendations: For those interested in implementing a CIS, WOIS has found that conflicts on consortium boards when resolved can lead to openning channels of gathering, preparing, and disseminating occupational information.

SUMMARY

In general, WOIS recommends, for those implementing a OIS, that ample time be allocated for in-service training and detailed planning, and that an OIS not make commitments for service until information is developed and the delivery system thoroughly tested. This, then, would provide User Service staff time to develop a marketing plan that could be systematically implemented to agencies with budgeting time-lines.

WOIS adjustments to difficulties encountered during the first grant year will be made and reflected in the second year plan of action.

VI

FINANCE

The State of Washington automated financial reporting system does not coincide with the NOIS reporting dates. Consequently, a yearly summary of expenses in the same form as quarterly reports will be submitted as an addendum to this report by September 15, 1976.

A preliminary estimate of WOIS expenses and revenue for the past year in a slightly different format is presented below:

DISBURSEMENTS FOR ELEVEN MONTHS		
Salaries and Wages	$134,224	
Goods and Services	67,025	
Travel	11,919	
Equipment	29,620	
Employee Benefits	23,807	
TOTAL		$266,595
Estimated 12-month expenditure	$299,919	
Revenue from grant	$299,919	
Variance	-0-	

VII

SUMMARY & RECOMMENDATIONS

The objectives, activities, and progress of the Washington Occupational Information Service have been detailed in previous sections. Adherence to the National Occupational Information Service Standards and Guidelines was reported in Section V, Process Evaluation. The purpose of this section is to briefly summarize the project as a whole and to present certain observations or recommendations for others based upon our first year's experience.

The general WOIS organizational objectives listed in the Introduction are restated below in achievement terms with a brief statement regarding achievement to date:

(1) A competent staff was recruited and hired. Staff members were generally experienced and required little or no in-service training beyond orientation and some technical assistance from the Oregon CIS staff. Attrition was low with only one staff member leaving for a promotional position in another state. Staff members accepted the positions in the four major areas of operation: administration, user services, information development, and delivery systems. Most were engaged by the end of the first quarter which provided WOIS with full staff capacity for approximately half of the contract year.

(2) Specific objectives and procedures for first year operation were developed. Each functional area of operation developed a list of its projected tasks for the year, manpower required, and time necessary

to achieve each. These were combined in an overall management plan which allowed us to review progress at appropriate intervals during the year.

(3) The State of Oregon occupational descriptions were acquired and modified for Washington use. This was a relatively straightforward task as occupational descriptions in both states are essentially similar although some adjustments had to be made, particularly in the employment outlook and preparation areas. This task did take more time than we anticipated, and one should not assume that the occupations are entirely transferrable from state to state. Additionally, the acquisition of localized occupational data was extremely difficult and, in some cases, data was not available. Data relating to localities within the state simply were not available during the past year.

(4) Washington programs of study and training were developed. Seventy-five of the programs were converted from the Oregon CIS. These were college and university related programs. The remainder of the programs were obtained from the Commission for Vocational Education, the Office of the Superintendent of Public Instruction, and the State Board for Community College Education and adapted to the CIS classification system. WOIS did not complete the acquisition and cataloging of school and college information. This was due primarily to the difficulty we encountered in gaining closure on the most effective means of collecting the data. During the summer months, however, information was collected and coded and will be entered into the system in August for fall use.

(5) Acquiring the CIS computer programs and converting them for use on one of the Washington computer systems appeared, at the outset, to be one of the easier tasks. We had no difficulty in transferring the Hewlett Packard Basic version of the program from an Oregon computer to a Hewlett Packard computer at The Evergreen State College. The programs ran well and served adequately for pilot use. We experienced considerable difficulty, however, when we tried to transfer these programs to the State's Interactive Computing Center at Eastern Washington State College. This conversion required translation from one form of the Basic language to another, and then from Basic to an Assembler language program. Conversion and other problems associated with telecommunications have caused us to rethink the feasibility of using the statewide system. Hopefully, the "bugs" in the system will be worked out by fall, and we will be able to evaluate it along with other alternatives during our second year of operation.

(6) The converted system was implemented and established in several secondary schools, community colleges, 4-year colleges, and social service agencies. The greatest acceptance was within the community colleges due to the fact that several of them had had an opportunity during the previous year to use the system on a pilot basis. Widely expanded use is expected in secondary schools and 4-year colleges during the coming year.

In short, all NOIS objectives for the Washington Occupational Information Service were achieved. The project was staffed, systems developed, and agencies began to use the system. While occasional disappointment is expressed at not having achieved all of the self-imposed information development or service goals, we believe this year has been very successful on balance and substantially exceeded the contractual goals set by NOIS.

As a result of that experience, there are a number of observations which can be made in the form of recommendations:

(1) Realistic goals should be set for the first year's operation. Depending upon staffing and funding, this probably includes getting the system "in place," working, demonstrable, and tried out on a pilot basis in some sites.

(2) Expect that the first year's operation for any subset of user agencies such as schools, community colleges, and social service agencies will be a pilot year, and that their acceptance on a broad scale will not take place until they have had an opportunity to use and evaluate the system.

(3) If a computer software system is to come from another state or a private company, contractual arrangements for conversion and full testing should be made so that the entire system is running properly and is thoroughly documented prior to its utilization by user agencies. Allow plenty of time for conversion in the plan.

(4) If potential users would like demonstrations of the system prior to its completion and testing, it would be better to demonstrate a complete system from another state rather than utilize an incomplete or untested system. Since a local state is more attractive, selected data on occupations, schools, etc. should be entered into

the system so that it demonstrates exactly how a given state's information will appear.

(5) The time requirements for information development activities should be carefully evaluated. Converting a system such as the CIS will take approximately one year for a staff of three or four. Substantial time is consumed in review and approval process.

(6) If the CIS system is used, regional computers or a combination of local and State systems should seriously be considered. While one increases coordination and updating problems with additional centers, the ability to have back-up and alternate sources of service may considerably outweigh the additional coordination tasks.

(7) Maximum staff utilization can best be attained if a task force of one to four key staff members have from several months to a year to plan, organize, and define duties prior to engaging the rest of the staff. During this period of time, it might be most helpful to consult with, or contract for borrowed staff from, a state which has already developed a similar system.

(8) Whatever pricing policy is adopted by the information service, it should be carefully weighed in light of future development and announced clearly so that all understand its implications.

(9) High quality information is necessary to inform a wide variety of the public regarding the new system. Staffing should include a qualified public information specialist.

(10) It is not necessary to "re-invent the wheel." There are several good occupational information systems available. Staff time can best be put to use establishing and improving one or more of these systems rather than developing a new one.

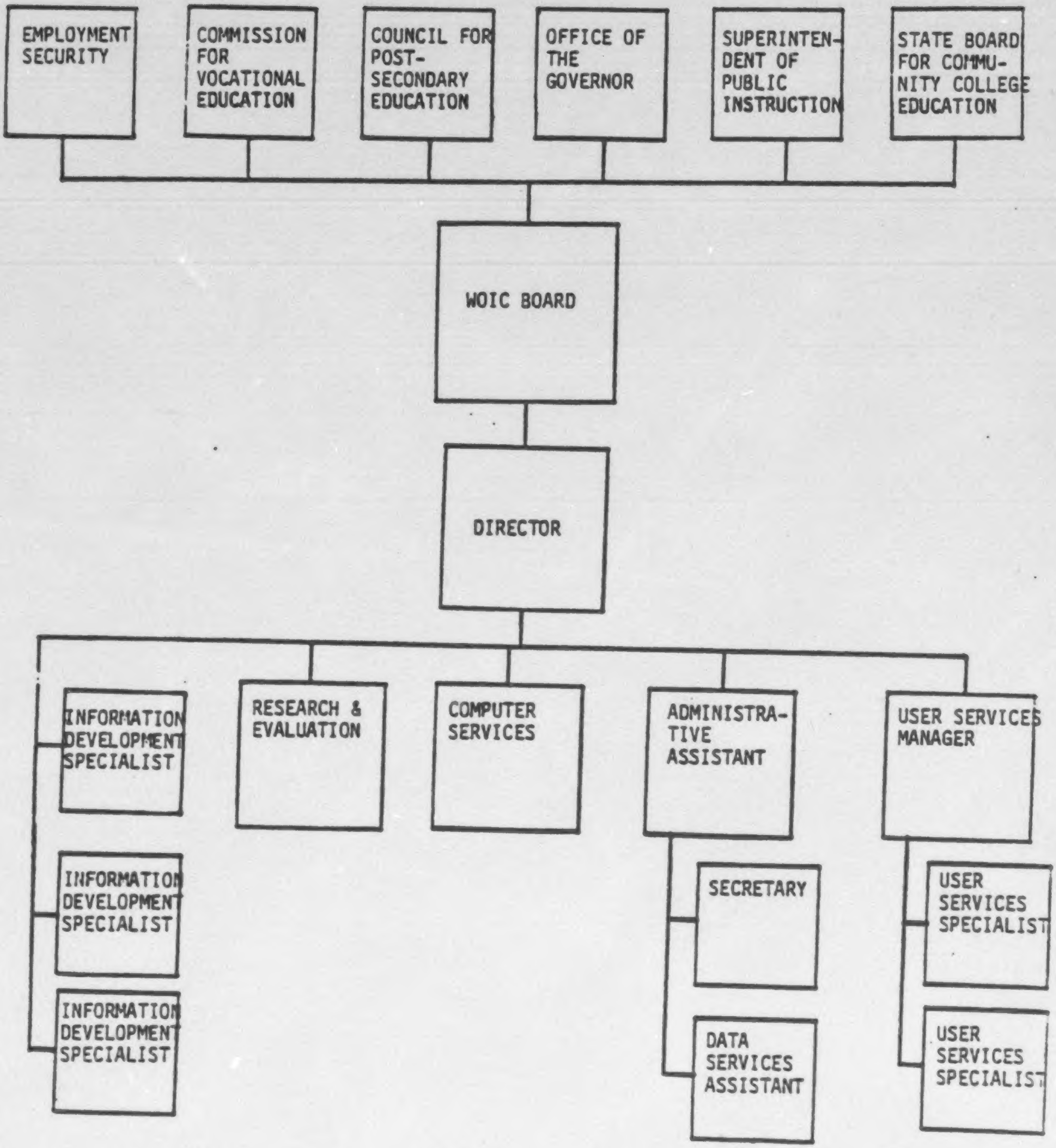
(11) From time-to-time throughout the course of the project, it is helpful and beneficial to consult with people from other states who have already developed a system. Resources should be built into a program budget to allow for this exchange of experience and information on a regular basis.

(12) It is best to choose a relatively straightforward and easy to use system. WOIS has found the Oregon CIS satisfactory. It can be implemented in a relatively short period of time and developmental efforts can be directed toward local enhancements rather than being consumed in understanding and explaining a complex system to people new to automated systems.

APPENDICES

APPENDIX A

WOIS TABLE OF ORGANIZATION


EMPLOYMENT SECURITY
COMMISSION FOR VOCATIONAL EDUCATION
COUNCIL FOR POST-SECONDARY EDUCATION
OFFICE OF THE GOVERNOR
SUPERINTENDENT OF PUBLIC INSTRUCTION
STATE BOARD FOR COMMUNITY COLLEGE EDUCATION
WOIC BOARD
DIRECTOR
INFORMATION DEVELOPMENT SPECIALIST
RESEARCH & EVALUATION
COMPUTER SERVICES
ADMINISTRATIVE ASSISTANT
USER SERVICES MANAGER
INFORMATION DEVELOPMENT SPECIALIST
SECRETARY
USER SERVICES SPECIALIST
INFORMATION DEVELOPMENT SPECIALIST
DATA SERVICES ASSISTANT
USER SERVICES SPECIALIST

APPENDIX B

WOIS DEMONSTRATIONS

1975-1976

AUGUST

8/18/75 - Presentation at Washington Vocational Association, Yakima
8/26/75 - Department of Social and Health Services Clerical Training Division (Phil Jones)

SEPTEMBER

9/23/75 - Bellevue Army Recruiting Command (Virginia White)
9/24/75 - Pacific Lutheran University Graduate Counseling class (Gary Minetti)
9/25/75 - Olympia School District (John Wilmarth and Dick Allen)
9/26/75 - Department of Labor and Industries (Jack Adams)
9/30/75 - Tacoma Employment Security Office (Clete Lynch)

October

10- 1-75 - Demonstration at the Lewis County Employment Security Office - (Gene McCaw*)
10- 3-75 - Presentation at the Western Conference of Vocational Advisory Councils - Portland
10- 3-75 - Presentation at the National Alliance of Businessmen Meeting (Dan Lazare*)
10-/10-11-75 - Presentation at the Washington State Personnel and Guidance Association (Lon Olson* - Cal Welsch*)
10-11-75 - TV Interview - Channel 11 Pasco
10-13-75 - "Your Public Schools" article
10-12-13-75 - Demonstration at the Northwest College Personnel Association - Bend, Oregon
10-15-75 - Contract negotiation at Lower Columbia Community College (Bonnie Crumby*)
10-20-75 - Presentation to Washington Guidance Cadre
10-21-75 - Demonstration for Representatives from Edmonds Community College Counseling Center (Melanie Bozeman*)
10-21-75 - Presentation and demonstration for O.V.T.I. Personnel course (Al Eckroth*)
10-22-75 - Meeting with representatives from Olympic and Ft. Steilacoom Community Colleges (Todd Coryell* and Dick Crumbie*)

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* Agency Contact Person

10/23-24/75 - Presentation and demonstration for Career Education Assistors in Cashmere
10/28/75 - Presentation at the Public Schools Vocational Directors Meeting, Tumwater
10/29/75 - TV interview - Channel 7, Olympia
10/29/75 - Presentation and demonstration at the Washington Council for High School-College Relations Meeting, Yakima
10/29/75 - Presentation to the Lacey Kiwanis
10/31/75 - WOIS Statewide Workshop at the Sea-Tac Motor Inn

NOVEMBER

11/5/75 - Presentation and demonstration for Olympia, North Thurston and Tumwater Counseling staff (John Willmarth*)
11/6-7/75 - Presentation at the Community College Directors of Counseling meeting (Barbara Daum*)
11/7/75 - Contract negotiation with the Individual Development Center staff (Mary Lou Hunt*)
11/11/75 - Presentation and demonstration to School District 81 Vocational Education staff (H. Mattson*)
11/11/75 - Presentation and demonstration to Spokane O.I.C. (Steve Joswick*)
11/11-12-13/75 - Presentation and demonstration at Bellevue School District (Violet Brooks*)
11/12/75 - Presentation and demonstration to Central Washington State College Counseling Center and Placement Center Staff (Wells McInelly*)
11/13/75 - Contract negotiation at Walla Walla Community College (Dick Cook*)
11/14/75 - Contract negotiation at the Education, Opportunity and Resource Center (Norm Gershon*)
11/17/75 - Contract negotiation at Olympic Community College (Dr. Robert Williams*)
- Presentation at the Clover Park School District (Don Friermuth*)
11/18/75 - Presentation and demonstration with the Longview School District
11/19/75 - Contract negotiation with Ft. Steilacoom Community College (Dick Crombie*)
11/21/75 - Contract negotiation with Skagit Valley Community College (Gerald Jordheim*)
11/24/75 - Demonstration - Monroe Reformatory (Bernice Funk*)
- Meeting with Highline School District (Ben Yormack*)
- Demonstration to Bellingham School District (Paul Sadler*)
11/25/75 - Contract negotiations with Highline Community College (George Donovan*)
11/26/75 - Contract discussion and training at O.V.T.I.
- Meeting with ex-offenders job development specialist, Seattle ES (Tandra DeCuir*)

DECEMBER

12/1/75 - Contract negotiation and training - Edmonds Community College (Norma Krueger*)
12/3/75 - Discussion with Spokane School District to develop pilot schools (Bill Zimmer*)

*Agency Contact

12/ 4/75 - Demonstration and presentation for an Evergreen State College Education course (Mary Moorehead*)

12/ 5/75 - Contract signing at Tacoma Community College (Paul Jacobsen*)

- Meeting with Tacoma ES and Manpower Development people (Clete Lynch*)

12/ 8/75 - Contract and training, Lower Columbia Community College (Bonnie Crumby*)

- Discussion with Clark Community College about use of WOIS (Milt McDermott*)

12/ 9/75 - Contract negotiation at Centralia Community College (Don Hughes*)

12/10/75 - Meeting with Central Washington State College Dean of Students and Dean of Undergraduate Studies, as well as Student Development staff to demonstrate and discuss use of WOIS at CWSC (Bob Miller* and Wells McInelly*)

12/11/75 - Shelton Correctional Center - demonstration (George Golliher*)

12/12/75 - Workshop for area high schools, Peninsula Community College (Dick Hendry*)

- Discussion with Shoreline Community College (Gordon Hartley*) and Seattle Central Community College (Mildred Olle*)

12/16/75 - Workshop and discussion of WOIS use at Fort Vancouver High School and surrounding school districts--Camas, Battleground, Ridgefield and Evergreen (Ben Acker*)

12/18/75 - Discussions with Prometheus College (Ernie DeRoche*) and University of Puget Sound (Paul Allwine*)

JANUARY

1/ 7/76 - Budget and program planning, Bellevue Public Schools (Jack Thompson*)

1/ 9/76 - Demonstration and contract discussion with Peninsula School District (Warren Holzapfel*)

- Demonstration at Women's Study and Treatment Center (Al Albertson*)
- Budget and program planning, Mt. Si High School, Snoqualmie School District (Sandy Horne*)
- Meeting with Snohomish-King County Manpower Consortium (Bob McPherson* and Ray Corpez*)

1/13/76 - Contract agreement with Tacoma Employment Security (Clete Lynch*)

- Demonstration for junior and senior high principals and counselors at Clover Park School District (John Wilson*)

1/14/76 - Presentation and demonstration for YWCA, Seattle (Sharon Johnson*)

1/15/76 - Development of proposal to serve special education students within ESD 113 (Susan Wall*)

1/16/76 - Meeting with the Washington Statewide Career Education Community Support Program (Dick Lutz*)

- Presentation and demo to King County Data Processing executives (Hal Andres*)

*Agency Contact

1/19/76 - Contract signing and initial training, Shelton Correctional Center (George Golliher*)
1/20/76 - Presentation and demonstration of program to ESD 109 (Harry Silverthorn*)
1/21/76 - Contract negotiations with Green River Community College (John Bush*)
- Presentation and demonstration of program to Tacoma area teachers and counselors at Ft. Steilacoom Community College (Ron Berg*)
1/22/76 - Meeting with Career Education Assistors (Dick Lutz*)
1/23/76 - Contract discussion, Bellevue Public Schools (Jack Thompson*)
- Planning for statewide and regional Secondary School Principals Association demonstration (Al Torgerson*)
1/26/76 - Meeting with all present program users - Advisory Group Meeting.
1/27/76 - Presentation and demo for Voc-Directors, Colville area schools (Jim Christian*)
- Demonstration and discussion with career counselor for East Lewis County (Ed Von Ross*)
- Demonstration for Career Planning and Placement Center, University of Washington (Roy Pleasant*)
- Presentation and demo at Shoreline Community College for counselors and students (Gordon Hartley*)
1/28/76 - Training at Walla Walla Community College (Dick Cook*)
- Demonstration to counselors and teachers in Walla Walla area (Jim Moore*)
1/29/76 - Demonstration at Walla Walla High School (Mary Ellen Morrison*)
- Program used at Peninsula School District (Linda Hulst*)
- Contract negotiations at Columbia Basin Community College (Miles King*)
- Demonstration to vocational counselors class in Tri-Cities area (Jim Moore*)
1/30/76 - Demonstration to Career Planning and Placement staff, Washington State University (Sid Miller*)
- Demonstration to DOL Low Income Grant Coordinators (Ron Graham*)
- Presentation, demo and training at State Reformatory, Monroe (Bernice Funk*)

FEBRUARY - 1976

2-4 - Hudtloff Junior High (Charles Alexander)
3 - Vancouver School District presentation to area Vocational Directors and Career Education Specialists (Jim Brooks)
5-6 - Clover Park Senior High (Gordon White)
6 - Demonstration to Washington Intercollege Relations Commission (Jeff Overholser)
9 - Demonstration to Student Services staff at Central Washington State College (Wells McInelly)
11/12 - University of Washington Computer and Terminal Fair
13 - Presentation to Student Development staff, Bellevue Community College (Kay McCarthy)

*Agency Contact

FEBRUARY - 1976 (Continued)

17-19 - Lakes High School (John Wilson)
18 - Southwest Washington Principals (Wayne Mann)
19 - Local Bremerton Chapter of WVA (Bob Williams)
23 - Capitol Business College (Ken DeLacey)
26 - Julia and Jordon Williams--Olympia High School students
26 - King County Youth Services In-School Program (Steve Saunders)
26 - King County Youth Services Out-of-School Program (Jim Holm)
27 - Seattle University (Susan Hunter)
27 - Mike Clafney--Olympia High School student

MARCH - 1976

1 - Job Line, Auburn
2 - Vocational Counseling Class, University of Washington (Atral Bailey)
3 - Shoreline Job Line (Martin Rotondi)
4 - Highline Youth Service Bureau (Bob Sturgill)
5 - Set up week long demo for Spokane Occupational and Industrialization Center (Steve Joswick)
6 - Presentation to Washington Vocational Executive Board (Don Hughes)
11 - Olympia High School (Dick Allen)
16 - Director of Office of Community Development (Dick Hempstead)
16-19 - Lockburn Junior High (John Price)
19 - Labor Market Analysts for Seattle area Employment Security (Tony Matukonis)
20 - Employment Security State Advisory Committee (Norward Brooks)
26 - Newport High School (Ted Kirchoff)
31 - Federal Way School District (Don Dederick)

APRIL - 1976

1 - Highline School District Vocational Counseling Class (John Saylor)
5 - Clover Park Vocational-Technical Institute (Ted Cooley)
6 - College Place Junior High School, Edmonds (Doris Beech)
6 - Everett School District (Bill Dunn)
7 - Spokane Falls Community College (Deral Adams)
7 - Spokane Community College (Dee Clott)
7 - Project Interchange High School, Seattle (Jack Richardson)
9/10 - Federal Way Job Fair
9-14 - Bellevue Community College (Coral Mundt)
11 - Week long demonstration at Central Washington State College (Dave Overby)
12 - Mt. Tahoma High School (Ed Roalkvam)
13 - Evergreen High School (John Wellman)
14-16 - Tacoma Career Fair
20 - Seattle District Employment Security (Ed Cruver)
20 - Shoreline Schools (Bill Stevenson)
21 - Alternative Schools Career Day (Nancy Malmsun)
26 - CVE Workshop for community college counselors (Allan Torgerson)
28 - Capitol High School Career Day (Rich Matzen)

MAY - 1976

5/ 1/76 - Demonstration at Career Education Workshop - Bremerton (Phil Royer)
5/3-7/76 - Demonstration at Sequim High School (Pheryl Montroy)
5/ 4/76 - Skagit Valley Community College Career Days (Susan Barnhart)
5/ 5/76 - University of Washington Vocational Counseling Class (Dr. Bailey)
5/5-7/76 - Demo and Training at Mt. Tahoma High School (Ed Roalkvam)
5/ 8/76 - Snohomish County Boy Scouts of America
5/10/76 - Yakima Valley College - demo and week long training (Bill Munson)
- Demo for Work Options for Women, YWCA (Shelley Guttman)
5/11/76 - Yakima School District demo (Floyd Winegar)
5/12/76 - Demo to all managers of local offices of Employment Security (Clete Lynch)
5/13/76 - Demo at Washington Association of Community College Counselors (Alan Torgerson)
- Demo to Special Education Teacher Career Education Conference (Sue Wall)
5/17/76 - Demo to teacher from Vancouver School District (Dyle Smith)
- King County Youth Affairs
5/18/76 - Olympia High School Career Day (Dick Allen)
5/19/76 - Demo and training for week long use at Spokane School District (Dale Mummy)
5/20/76 - Seattle area demonstration for Seattle schools, Lake Washington, Issaquah, Kent, Mercer Island School Districts.
5/25/76 - Demo for Western Washington State College graduate students in College Student Personnel Administration (Ray Romine)
5/26/76 - Roosevelt Junior High School Career Day, Port Angeles (Holly Aldridge)

JUNE - 1976

6/ 4/76 - La Conner High School Career Day (Glenn Springer)
6/ 7/76 - Demo to Asst. Commissioners for Employment Security (Clint Petty)
6/10/76 - Meeting with Everett School District Vocational Director (Bill Dunn)
6/25/76 - Demonstration at Western Washington State College Vocational Counseling Workshop (Bill MacKay)

JULY - 1976

7/27/76 - Demonstration at Tenzler Branch Library (Dean Hampton)
7/29/76 - Demo to Vocational Counselors class at EWSC (Dr. Bill Selman)
7/30/76 - Demo to Spokane Area Employment Security (Morrie Slavens)

APPENDIX C

WASHINGTON OCCUPATIONAL INFORMATION SERVICE

In-Service Training Program

Session 1 - 2 hours
Getting to Know the System

Objective: To provide initial training to Counselors and other user agency personnel in the fundamentals of the WOIS system. At the conclusion of this session, participants will know how to use the User Handbook, will know the types of information in the system, and will be able to operate the computer terminal.

I. The Washington Occupational Information Service - Overview

  A. What it is
  B. What it does
  C. How it works

II. System Overview

  A. Master Files
    1. Quest
    2. Description
    3. Preparation
    4. Bibliography
    5. Program
    6. School
    7. Visit

  B. The User Handbook
    1. Contents
    2. How to use it effectively

III. Using the System

  A. The computer terminal
  B. "LOGON"
  C. Accessing different files
  D. "LOGOFF"
  E. Scheduling students

IV. Responsibilities

  A. Terminals
  B. Paper
  C. Computer center
  D. User Handbooks
  E. Problem follow-up

WASHINGTON OCCUPATIONAL INFORMATION SERIVCE
In-Service Training Program
Session 1 - 2 hours
Getting to Know the System

V. Handouts

A. WOIS Brochure
B. User Handbook
C. Quest Matrix
D. Components of Description Statement
E. How to use the Computer Center

APPENDIX D

WASHINGTON OCCUPATIONAL INFORMATION SERVICE

In-Service Training Program

Session 2 - 4 hours
Using the System

Objective: To provide follow-up training to user agency personnel. At the conclusion of the session participants will know: (1) origin and development of the WOIS information files; (2) basic techniques for managing WOIS; (3) philosophy of information development; (4) establishing a local support base; (5) evaluation process; and (6) methods to communicate with WOIS.

I. Review initial training

II. Information Files

   A. Contents
   B. Source
   C. Philosophy/Rationale
   D. Updating
   E. Effective Use

III. Ancilliary Files

   A. Attributes
   B. Statistics
      1. Information trends
      2. Management

IV. Managing the System

   A. Scheduling students
   B. Individual counseling
   C. Group counseling
   D. Location
   E. Use of User Handbooks
   F. Using student aides

V. Publicity of WOIS

   A. Inhouse
   B. Community
   C. Career Fairs

VI. Evaluation

   A. Agency
   B. WOIS

WASHINGTON OCCUPATIONAL INFORMATION SERVICE
In-Service Training Program
Session 2 - 4 hours
Using the System

VII. Communication with WOIS

- A. Improvement of System
- B. User Advisory Group
- C. Concerns/Needs
- D. Responsibility of Agency Coordinator

VIII. Questions and Answers

IX. Handouts

- A. Source of information files
- B. STATISTICS explanation
- C. Evaluation forms currently used

APPENDIX E

EXHIBIT 1

EXAMPLE OF QUEST

```
*HELLO
 HELLO; PLEASE ENTER YOUR NAME, THEN HOLD DOWN THE 'CTRL' &
 THE LETTER 'C' KEYS TO TRANSMIT YOUR RESPONSE.
*JOYCE
 HELLO JOYCE,
    HOW DO YOU WANT TO BEGIN?
 IF YOU FILLED OUT THE QUESTIONNAIRE IN YOUR USER HANDBOOK
             TYPE IN 'QUEST'.
 IF THERE ARE OCCUPATIONS, EDUCATIONAL PROGRAMS, WAYS TO
             PREPARE FOR AN OCCUPATION, AND/OR THE
             BIBLIOGRAPHY OF AN OCCUPATION THAT YOU ARE
             INTERESTED IN, TYPE IN 'INFO'.
*QUEST
   WE WILL NOW BEGIN.  AS EACH QUESTION IS LISTED, LOOK
 TO SEE HOW YOU ANSWERED IT IN YOUR USER HANDBOOK,
 THEN TYPE IN THE CODE YOU CIRCLED.  DON'T FORGET TO
 HOLD DOWN THE 'CTRL' & LETTER 'C' KEYS AFTER
 EACH RESPONSE.
 HERE IS YOUR FIRST QUESTION:

 01 LIFTING    (YES,NO,CD,DK)
*CD
 02 IMPAIRED VISION    (YES,NO)
*NO
 03 DEAFNESS    (YES,NO)
*NO
 THERE ARE 198 OCCUPATIONS THAT MEET ALL YOUR RESPONSES.
 ANY TIME YOU WANT TO KNOW HOW MANY OCCUPATIONS ARE LEFT
 ON YOUR LIST, TYPE IN 'HOW MANY'.
 04 REGION    (NW,US)
*NW
 05 CITY SIZE    (LM,LMSC,SC,SCR,RUR,NP)
*SC
 06 WORKING CONDITIONS    (IN,OUT,NP)
*IN
 07 EDUCATION    (NO,HS,ONE,TWO,FOUR,ANY)
*TWO
 08 WORKING WITH HANDS    (HVG,HFG,HFP,HDK)
*HVG
 09 EYE FOR ACCURACY    (CVG,CFG,CFP,CDK)
*CVG
 10 ABILITY WITH WORDS    (VVG,VFG,VFP,VDK)
*VVG
 11 ABILITY WITH NUMBERS    (NVG,NFG,NFP,NDK)
*NVG
 12 CATCHING ON TO THINGS    (GVG,GFG,GFP,GDK)
*GFG
 13 PRECISION WORK    (YES,NOT,NP)
*YES
 14 OPERATING EQUIPMENT    (YES,NOT,NP)
*YES
```

EXHIBIT 1 (continued)

```
 15 HANDLING MATERIALS    (YES,NOT,NP)
*NOT
 16 INTERPRETING FACTS    (YES,NOT,NP)
*o_NOT
 17 ORGANIZING AND USING INFORMATION    (YES,NOT,NP)
*YES
 18 COPYING, SORTING, PUTTING THINGS TOGETHER    (YES,NUT,NP)
*HOW MANY
  47 OCCUPATIONS REMAIN.
 18 COPYING, SORTING, PUTTING THINGS TOGETHER    (YES,NOT,NP)
*YES
 19 GIVING COUNSEL    (YES,NOT,NP)
*YES
 20 DISCUSSING, BARGAINING    (YES,NOT,NP)
*NOT
 21 INSTRUCTING, SUPERVISING    (YES,NOT,NP)
*NP
 22 SELLING, PERSUADING    (YES.NOT,NP)
*NOT
 23 ASSISTING    (YES,NOT,NP)
*YES
 24 BEGINNING WAGE     (NI,MIN,500,700,1000,1250)
*700
 THERE ARE  22 OCCUPATIONS ON YOUR LIST
 DO YOU WANT TO PRINT THE ENTIRE LIST?
 PLEASE TYPE 'YES' OR 'NO'
*YES
 'QUEST' LIST FOR JOYCE

 CLERICAL OCCUPATIONS:  1400
     1415  SHORTHAND REPORTERS

 BOOKKEEPING-ACCOUNTING OCCS:  1600
     1686  COMPUTER OPERATORS

 LABORATORY OCCUPATIONS:  2600
     2644  OPTICIANS
     2654  HEALTH TECHNICIANS/TECHNOLOGISTS
     2656  LABORATORY TESTERS

 MECHANICS OCCUPATIONS:  3100
     3169  APPLIANCE REPAIRERS

 BUILDING MAINTENANCE OCCUPATIONS:  3400
     3422  BUILDING MAINTENANCE WORKERS

 CONSTRUCTION OCCUPATIONS:  4200
     4242  PAINTERS
     4254  CARPENTERS
     4276  FLOOR LAYERS

 TIMBER PRODUCTS OCCUPATIONS:  4500
     4528  PLANER MILL OCCUPATIONS
     4532  SAWMILL SAWING OCCUPATIONS
```

EXHIBIT 1 (continued)

GRAPHIC ARTS OCCUPATIONS: 4700

4734	PHOTOGRAPHERS

METALWORKING OCCUPATIONS 5400

5424	MOLDERS

OTHER PRODUCTION OCCUPATIONS: 5900

5944	BOILER OPERATORS
5946	SEWAGE PLANT OPERATORS

TRANSPORTATION OCCUPATIONS: 6100

6128	RAILROAD CONDUCTORS
6142	BUS AND TAXI DRIVERS
6144	TRUCK DRIVERS
6172	RAILROAD ENGINEERS
6174	RAILROAD BRAKEMEN AND SWITCHMEN

HEALTH SERVICE OCCUPATIONS: 8100

8162	REGISTERED NURSES

EXHIBIT 2

WOIS OCCUPATION DESCRIPTION

*DESC 1186

1186 PERSONNEL OFFICERS

PERSONNEL OFFICERS PLAN AND IMPLEMENT POLICIES CONCERNING AN ORGANIZATION'S PERSONNEL ACTIVITIES IN ORDER TO ATTRACT AND KEEP THE BEST AVAILABLE EMPLOYEES. DUTIES INCLUDE RECRUITING, ORGANIZING STAFF TRAINING PROGRAMS, INTERVIEWING AND HIRING JOB APPLICANTS, COUNSELING AND DISCIPLINING EMPLOYEES, CLASSIFYING JOBS, AND PLANNING WAGE AND SALARY SCALES. THEY MAY ALSO HANDLE LABOR GRIEVANCES, AFFIRMATIVE ACTION AND SAFETY PROGRAMS, AND ADMINISTER RETIREMENT AND EMPLOYEE BENEFIT PROGRAMS.

APTITUDES: ABILITY TO SPEAK AND WRITE EFFECTIVELY AND WORK WITH DATA; ABOVE AVERAGE SKILL IN WORKING WITH PEOPLE. WORK SETTING: USUALLY WORK IN OFFICES; TRAVEL MAY BE REQUIRED. HIRING PRACTICES: SOME COMBINATION OF COLLEGE TRAINING WITH EXPERIENCE IN PERSONNEL WORK IS BECOMING INCREASINGLY IMPORTANT FOR ENTRY POSITIONS. EMPLOYERS: LARGE ESTABLISHMENTS, GOVERNMENT UNITS, MANUFACTURERS, AND WHOLESALE AND RETAIL TRADE FIRMS. TRAINING: AVAILABLE (SEE PREP 1186).
UP-7-14-76

CURRENT EMPLOYMENT: AROUND 5,000 IN WASHINGTON; ABOUT 35% ARE WOMEN. SALARY: VARIES WITH EMPLOYMENT SETTING; MOST ENTRY LEVEL POSITIONS EARN BETWEEN $750-$900/MO. EXPERIENCED PERSONNEL MANAGERS MAY EARN FROM $14,000-$30,000/YR. OUTLOOK: SURPLUS OF APPLICANTS. THE OUTLOOK DEPENDS ON HIGH EMPLOYMENT LEVELS AND MANAGEMENT'S INCREASING RELIANCE ON PERSONNEL WORKERS TO ADMINISTER EMPLOYEE-MANAGEMENT RELATIONS, AFFIRMATIVE ACTION PROGRAMS, EMPLOYEE TRAINING, AND EMPLOYEE SALARY-BENEFIT PLANS. STUDIES PREDICT THAT THESE SOURCES WILL GENERATE STEADY DEMAND FOR EXPERIENCED SPECIALISTS AND WELL QUALIFIED ENTRY WORKERS. CURRENT OPPORTUNITIES FOR BEGINNERS APPLYING FOR JUNIOR POSITIONS ARE LIMITED, AND COMPETITION IS FAIRLY KEEN. PROSPECTS WILL IMPROVE AS THE ECONOMY STRENGTHENS, INDUSTRIES EXPAND AND AS EMPLOYMENT LEVELS RISE. OPPORTUNITIES FOR QUALIFIED WOMEN & MINORITY GROUP MEMBERS ARE GOOD.
UP-7-14-76

FOR THE PHYSICALLY HANDICAPPED: THIS OCCUPATION IS FEASIBLE FOR THE PHYSICALLY HANDICAPPED OFFERING THE INDIVIDUAL A VARIETY OF WORK SETTINGS. OTHER RELATED OCCUPATIONS FEASIBLE FOR THE PHYSICALLY HANDICAPPED ARE AS FREELANCE WRITERS (DESC 2174) OR AS A WRITER OR EDITOR (DESC 2176). INDIVIDUALS WITH A BACKGROUND IN COMMERCIAL ART OR DESIGN (DESC 4724) OR PHOTOGRAPHY (DESC 4734) CAN SOMETIMES GAIN ENTRY INTO A PUBLIC RELATIONS FIRM. CLERICAL SUPPORT SERVICES (DESC 1400) ARE ALSO NEEDED IN PUBLIC RELATIONS FIRMS.

UP-2-9-76, 6-2-76

EXHIBIT 3

WOIS PREPARATION STATEMENT

```
*PREP 1186
  1186  PERSONNEL OFFICERS
MOST EMPLOYERS REQUIRE COLLEGE TRAINING FOR PERSONNEL WORK-
ERS, PREFERABLY 4-YEAR DEGREES IN BUSINESS WITH COURSEWORK
IN PERSONNEL, LABOR RELATIONS, AND/OR PSYCHOLOGY.  INCREAS-
INGLY, GRADUATE WORK IN PERSONNEL ADMINISTRATION IS PRE-
FERRED, ESPECIALLY BY LARGE ESTABLISHMENTS; OPPORTUNITIES
TO ENTER PERSONNEL WORK FROM CLERICAL POSITIONS ARE DIMIN-
ISHING.  RELATED EXPERIENCE IS ALSO HELPFUL.  RELATED ED-
UCATIONAL PROGRAMS:  BUSINESS MANAGEMENT AND ADMINISTRATION
(PROG 145); PSYCHOLOGY (PROG 541).
UP-12-22-75
```

EXHIBIT 4

WOIS BIBLIOGRAPHY REFERENCE

```
*BIB 1186
  1186  PERSONNEL OFFICERS
 'OCCUPATIONAL OUTLOOK HANDBOOK' (1976-77 ED.), PP. 143-147;
 'DICTIONARY OF OCCUPATIONAL TITLES' (VOL. II), P. 237
 UP-6-23-76
```

EXHIBIT 5

WOIS VISIT LIST

VISIT FOR 1186 PERSONNEL OFFICERS

PERSON TO CONTACT:
R. L. PRYOR
PERSONNEL DIRECTOR
PHONE: 597-6622

NAME OF FIRM:
ST. JOSEPH'S HOSPITAL
1718 SOUTH 'I'
TACOMA 98444

SPECIAL INSTRUCTIONS: PLEASE CALL DURING THE AFTERNOON FOR AN APPOINTMENT.

PERSON TO CONTACT:
ODD A. LUND
PERSONNEL DIRECTOR
PHONE: 593-4250

NAME OF FIRM:
CITY OF TACOMA
ROOM 531 COUNTY-CITY BLDG.
TACOMA 98402

SPECIAL INSTRUCTIONS: PLEASE CALL IN ADVANCE FOR AN APPOINTMENT.

PERSON TO CONTACT:
DAVE SWENSON
OFFICE MANAGER
PHONE: 383-3401

NAME OF FIRM:
PRUDENTIAL INSURANCE CO.
615 SOUTH 9TH
TACOMA 98405

SPECIAL INSTRUCTIONS: PLEASE CALL DURING THE HOURS OF 8:00-10:00 A.M. AND 1:00-5:00 P.M. FOR AN APPOINTMENT.

PERSON TO CONTACT:
RUTH FENCHEL
P.R. CUSTOMER SERVICES
PHONE: 572-5220

NAME OF FIRM:
UNITED MUTUAL SAVINGS BANK
1102 SOUTH COMMERCE
TACOMA 98402

SPECIAL INSTRUCTIONS: PLEASE CALL IN ADVANCE FOR AN APPOINTMENT.
WOULD BE WILLING TO SPEAK TO GROUPS AT PLACE OF BUSINESS AND RESPOND TO LETTERS.

UP-4-1-76, 6-16-76

EXHIBIT 6

WOIS EDUCATIONAL PROGRAM

*PROG 183
183 TELLER TRAINING (14.0105)

PROGRAM GOALS: TO PREPARE PERSONS FOR ENTRY LEVEL EMPLOYMENT AS A TELLER FOR BANKS, CREDIT UNIONS, SAVINGS AND LOAN ASSOCIATIONS, AND OTHER TYPES OF FINANCIAL INSTITUTIONS. UPON COMPLETING THIS COURSE OF STUDY, THE STUDENT SHOULD BE ABLE TO:

1. PROVIDE A BROAD BASE OF TECHNICAL AND GENERAL SKILLS WHICH WILL GIVE THE NECESSARY BACKGROUND FOR ENTRY LEVEL EMPLOYMENT AND ATTITUDES AND MOTIVATION NECESSARY TO ADVANCE IN THE FIELD.

2. RECEIVE AND PAY OUT MONEY AND KEEP RECORDS OF MONEY AND NEGOTIABLE INSTRUMENTS INVOLVED IN VARIOUS BANKING TRANSACTIONS.

3. RECEIVE CHECKS AND CASH FOR DEPOSITS, VERIFY AMOUNTS, AND EXAMINE CHECKS FOR ENDORSEMENTS.

4. ENTER DEPOSITS IN DEPOSITOR'S PASSBOOK OR ISSUE RECEIPTS WHICH WOULD INCLUDE UTILIZING A BANK TELLER MACHINE.

5. PLACE HOLDS ON ACCOUNTS FOR UNCOLLECTED FUNDS.

6. ORDER SUPPLIES OF CASH TO MEET DAILY NEEDS AND PREPARE CASH FOR SHIPMENT.

7. SELL DOMESTIC EXCHANGE, TRAVELER'S CHECKS AND SAVINGS BONDS.

8. OPERATE VARIOUS OFFICE MACHINES AS NECESSARY.

9. COMPUTE SERVICE CHARGES, FILE CHECKS, AND ACCEPT LOAN PAYMENTS.

TYPES OF POSITIONS, BY JOB TITLE, IN WHICH STUDENTS HAVE BEEN PLACED AS A RESULT OF THE PROGRAM:

BANK TELLERS
CASHIERS
PAYROLL OFFICERS
SAVINGS AND LOAN TELLERS
CREDIT UNION TELLERS
FRONT DESK TELLERS

EXHIBIT 6 (continued)

```
 DO YOU WANT A LIST OF SCHOOLS
 TYPE IN YES OR NO
*YES
 SCHOOLS:

               1 KING-SNOHOMISH AREA SCHOOL

- - - - - 23105 RENTON VOC-TECH INSTITUTE, RENTON

               1 TACOMA AREA SCHOOL

- - - - - 23303 CLOVER PARK VOC-TECH INSTITUTE, TACOMA

               1 WEST SIDE AREA SCHOOL

- - - - - 22812 LOWER COLUMBIA COMMUNITY COLLEGE, LONGVIEW

UP-3-3-76, 8-12-76
```

EXHIBIT 7

WOIS ATTRIBUTE FILE

```
ATTR 1186
 1186  PERSONNEL OFFICERS

01=YES      01=NO       01=CD       01=DK
02=YES      02=NO
03=NO
04=NW       04=US
05=LM       05=LMSC     05=SC       05=SCR      05=NP
06=IN       06=NP
07=FOUR     07=ANY
08=HVG      08=HFG      08=HFP      08=HDK
09=CVG      09=CFG      09=CDK
10=VVG      10=VDK
11=NVG      11=NFG      11=NDK
12=GVG      12=GFG      12=GDK
13=YES      13=NOT      13=NP
14=YES      14=NOT      14=NP
15=YES      15=NOT      15=NP
16=YES      16=NP
17=YES      17=NP
18=YES      18=NOT      18=NP
19=YES      19=NP
20=YES      20=NP
21=YES      21=NP
22=YES      22=NOT      22=NP
23=YES      23=NOT      23=NP
24=MIN      24=500      24=700      24=NI
```

EXHIBIT 8

L = Labor Market Information

LA Occupations

01-09 General (all types)
  01 Washington - includes occupational projections
  05 Other states and regions
  07 U.S.
  09 Foreign

10-99 Occupational Clusters

  11 Administrative
  14 Clerical
  16 Bookkeeping-Accounting
  21 Social Research and Planning
  23 Engineering and Design
  26 Laboratory
  31 Mechanic
  34 Building Maintenance
  41 Agricultural and Forestry
  42 Construction
  43 Food Products
  44 Textile and Apparel
  45 Timber Products
  47 Graphic Arts
  54 Metal Working
  56 Electricity and Electricians
  59 Other Production
  61 Transportation
  71 Stock Control
  74 Sales
  78 Food Service
  81 Health Service
  84 Social Service
  94 Protective Service
  98 Art and Entertainment

LB Labor Market Topics

10-19 Occupational Wages
  11 Compensation Plans
  13 Surveys - Washington
  14 Surveys - Other states and regions
  15 Surveys - United States
  19 Other

20-29 Industrial Earnings
  20 Agricultural
  21 Mining
  22 Construction
  23 Manufacturing

EXHIBIT 8 (Continued)

L = Labor Market Information

  - 24 Transportation, Communication, Utilities
  - 25 Wholesale and Retail Trade
  - 26 Finance, Insurance and Real Estate
  - 27 Service
  - 28 Public Administration
  - 29 Industry - all types

- 30 Wage Supplements
- 35 Wage - other

- 40 Working Conditions

- 50 Labor Regulations
- 51 Occupational Licensing
- 59 Other

- 60 Occupational Safety and Health

- 70 Unions

- 80 Apprenticeship and OJT
  - 81 Apprenticeship and OJT - Washington

- 90 Technological Change and Productivity

LC Industry

- 01 Agriculture, Forestry and Fishing
- 10 Mining
- 15 Construction
- 24 Lumber and Wood products
- 39 Other manufacturing
- 40 Transportation, Communication, Utilities
- 50 Wholesale and Retail trade
- 60 Finance, Insurance and Real Estate
- 70 Service
- 91 Government
- 99 General (all types)

LD General Economic and Labor Market Information

- 10 Economic conditions and projections - Washington
- 11 Economic conditions and projections - United States
- 20 Price indexes
- 30 Labor statistics (including employment and unemployment) - Washington
- 31 Labor statistics (including employment and unemployment) - United States
- 40 Other

EXHIBIT 8 (Continued)

P = Population and Labor Force Groups

PA Labor Supply Sources

- 10 Occupational Transfers

- 20 Geographic Migrants

- 30 Unemployed Persons

- 40-60 Special Groups
  - 40 Special groups
  - 41 Youth
  - 42 Adults
  - 43 Older workers
  - 44 Women
  - 45 Handicapped
  - 46 Indians
  - 47 Blacks
  - 48 Spanish surnames, persons with
  - 49 Asians
  - 50 Poor/disadvantaged/welfare
  - 51 Veterans
  - 52 Ex-offenders and offenders
  - 60 Other

- 80 Discrimination

- 90 Educational Sources

PB Population Characteristics

- 10 Census

- 90 Other

EXHIBIT 8 (Continued)

E = Educational Information

EA Programs of Study and Training (currently not in use)

EB Education and Training Institutions

- 10 School Directories - Washington
- 11 School Directories - United States
- 15 Program Directories - Washington
- 16 Program Directories - United States

- 20 School Catalogues
  - 21 Four-year
  - 22 Two-year
  - 23 Proprietary

EC School Topics Information

- 10 General

- 20 Degrees and Awards

- 30 Educational Financing

- 40 Enrollment Statistics and Forecasts

ED Other Educational Topics

- 10 General Educational Theory and Data

- 30 Educational Regulations (including licensing)

- 60 Consumer Protection in Education

- 70 Education Planning - Washington
  - 71 Superintendent of Public Instruction
  - 72 State Board for Community College Education
  - 73 Commission for Vocational Education
  - 74 Council for Postsecondary Education
  - 75 Office of Program Planning and Fiscal Management
  - 79 Other

EXHIBIT 8 (Continued)

G = General Information

GA Research Methods and Models

- 10-19 Definitions and Classifications
  - 10 D.O.T.
  - 19 Others

- 20 Labor Market Theory
- 21 Labor Market, Research Methods
- 22 Labor Market, Research Reports

- 30 Research and Development Funding

- 40 Job Analysis

- 50 Program Evaluation

GB Career Development

- 10 Counseling and Guidance
  - 15 Materials and bibliographies

- 20 Career Education
  - 21 Career education - Washington
  - 26 Curriculum materials and bibliographies

- 30 Vocational Education
  - 32 Materials and bibliographies

- 40 Assessment Methods

- 60 Job Search
  - 61 Washington
  - 69 Other

GC Labor Market Institutions

- 10 Agency Reports

- 20 Program Reports

- 30 Manpower Policy and Planning (including CETA)

GD Organization Managements

- 10 Personnel Management

- 30 Management Methods

- 50 Managerial Accounting

- 70 Marketing Methods

EXHIBIT 8 (Continued)

G = General Information

GE Information Systems

- 10 Career Information Systems
- 15 Labor Market Information Systems
- 20 Management Information Systems
- 90 Other

GF Directories and Bibliographies

- 10 Directories
- 60 Bibliographies and Publications Lists

WAGE WORKSHEET (A)

CIS Code ______ CIS Title ______

Revision Date ______

Source	Survey Date	Wage	Type of Measure	Coverage			Other Comments**
				Title or Specialty	Industry	Geog. Area	

---

* Indicate whether measure is: average weekly/monthly/annual earnings, straight-time hourly/weekly/monthly rate, mean, median, range, interquartile range, entry rate, etc.

** For example: sampling problems (composition, response rate, etc.), other data provided in source (hours, fringes, employment estimates, etc.), other comments re usefulness of data

EXHIBIT 9

WAGE WORKSHEET (B) - DEFINITIONS

CIS Code __________ CIS Title ____________________

Revision Date ______________

EXHIBIT 9 (Continued)

EXHIBIT 10

Washington Occupational Information Service

711 S. Capitol Way 608 Evergreen Plaza Olympia, Wa 98504 (206) 753-0311
Scan 234-0311

Washington Occupational Information Service (WOIS) is a new organization which is developing information about occupations, programs of education and training, and schools within Washington. Our materials will be used throughout the state by students, counselors, and others involved in career planning.

Currently, we are developing a description of an occupational area with which you are familiar. It would be most helpful to us if you would review the description that we have initially prepared. Your comments and perspective will help insure accurate and up-to-date information for people exploring career fields.

If you do not have time to answer the questionnaire, feel free to give the material to another person familiar with the occupation.

In order to complete this review promptly, we would appreciate your returning the questionnaire and description with your suggested changes as soon as possible. If you have any questions, please contact Steve Rice at (206) 753-4746.

Thank you for your time and cooperation. We look forward to receiving your completed questionnaire.

Sincerely,

Mark A. Johnson
Executive Director

/mj
Enclosures

WOIS SERVES THE WASHINGTON OCCUPATIONAL INFORMATION CONSORTIUM (WOIC) AN INTERAGENCY ORGANIZATION COMPRISED OF OFFICE OF THE GOVERNOR, COMMISSION FOR VOCATIONAL EDUCATION, STATE BOARD FOR COMMUNITY COLLEGE EDUCATION, SUPERINTENDENT OF PUBLIC INSTRUCTION, COUNCIL FOR POST-SECONDARY EDUCATION AND EMPLOYMENT SECURITY DEPARTMENT.

EXHIBIT 10 (Continued)

WASHINGTON OCCUPATIONAL INFORMATION SERVICE

OCCUPATIONAL INFORMATION REVIEW QUESTIONNAIRE

Please review the attached occupational information and mark any sections that you think need changing. Use the margins to note possibly misleading or questionable statements. We are concentrating on the following areas in this review so please check these areas carefully.

1. Hiring Practices: What special qualifications or characteristics distinguish those who get hired for entry-level positions from those who don't? What is the importance of licensing, certification, or apprenticeship for this occupation? What major hiring channels are used by employers (such as union hiring halls, etc.)?

2. Current Employment: Is our estimate of the size of the occupation approximately correct? Are the statements about sex and geographic distriburion accurate? If not, what corrections would you suggest?

3. Employment Outlook: What term best describes the relationship between supply and demand for this occupation in your area? (Circle one)

   *Surplus of Workers * Balance of Workers & Jobs * Shortage of Workers*

   A. Does the outlook paragraph adequately describe both the present and the future? If not, why?

   B. Are there other factors that significantly influence the outlook? If yes, how?

4. Preparation: Please give us what information you can in the following areas:

   A. Training: What education, training, and experience are required for employment? Are alternative routes of entry (if more than one) correctly described and adequate information provided as to how to pursue each? If not, what additional information should be given?

   B. Tips: Can you add any tips for preparation that would help a person thinking of entering this occupation or tips about advancement once the person enters this field?

5. Promotional Opportunities: What are the major advancement opportunities available to the entry level worker in this occupation?

6. Worker Costs: What are the approximate costs to the worker for such things as tools, union membership or licensing fees?

7. Additional Sources: Please list the names and addresses for any other sources and/or people whom we can contact for additional information about this occupation. (If there are any materials which your organization publishes that might be helpful, please return it with the questionnaire.)

8. May we continue to include you in our review panel and send you similar materials for your comments again in about a year? YES ______ NO ______

______________________ REVIEWER	______________________ ORGANIZATION
______________________	______________________ TELEPHONE
______________________ ADDRESS	

We would appreciate it if you would sign the questionnaire so that we might contact you if we have any questions about your responses.

EXHIBIT 11

OCCUPATIONAL DESCRIPTION SOURCE RECORD

Title ______________________________ Code ______________

NATURE OF THE JOB (Function, duties, related occupations)

NATIVE QUALIFICATIONS (Aptitudes, interests, temperaments, physical capacities)

PREPARATION

Education, training and/or experience requirements; sources (formal training, apprenticeship, OJT, etc.)

Characteristics of preferred workers (native qualifications, education, training, experience; importance of apprenticeship, licensing, certifications, etc.)

Hiring Channels

Promotional Ladders

Licensing Requirements and Fees

WORK SETTING (Environment, hazards, hours, seasonality, employers, unions)

CURRENT EMPLOYMENT (Numbers employed; geographic, age, sex distribution)

EMPLOYMENT OUTLOOK (Demand & supply conditions and trends, factors influencing demand, opportunities for special groups, national vs. state and local conditions.)

EXHIBIT 12

IDS-1
1/76

ADDITIONAL SOURCE RECORD

Occupation Code ________

Title ____ Classification No. _________

Information Items ____

____

Remarks:

EXHIBIT 13

WASHINGTON OCCUPATIONAL INFORMATION SERVICE

VISIT FILE INFORMATION

DATE: ____________________

OCCUPATION: ______________________________

WOIS OCCUPATION NO: ______________________________

PERSON TO CONTACT: ______________________________

TITLE: ______________________________

FIRM NAME: ______________________________
(Where you work--if you cannot be visited at work, leave this item blank.)

ADDRESS: ______________________________
(Where a person would visit you)

PHONE: ______________________________

Are you willing to be visited by individuals who are interested in your occupation?	YES	______
	NO	______
Are you willing to talk to a group of students and/or interested individuals concerning your occupation?	YES	______
	NO	______
If YES, at your place of business		______
at a school		______
Are you willing to respond to letters concerning questions about your occupation?	YES	______
	NO	______

SPECIAL INSTRUCTIONS:

____

____

____

PLEASE RETURN TO: Washington Occupational Information Service
711 South Capitol Way
608 Evergreen Plaza Building
Olympia, WA 98504
PHONE: (206) 753-0311, SCAN 234-0311

1/7/76

APPENDIX F

FISCAL YEAR 1977

AUGUST 1, 1976 - JULY 31, 1977

SECOND YEAR ANNUAL PLAN

WASHINGTON OCCUPATIONAL INFORMATION SERVICE
608 Evergreen Plaza Building
Olympia, Washington

ACKNOWLEDGEMENT

This draft is being prepared by the Washington Occupational Information Service staff for presentation to the WOIC Board of Directors and the subcommittees for their perusal prior to the August 11, 1976 WOIC Board meeting. The purpose of this document is to provide the staff, the Board, and interested persons with a very clear and concise statement of what WOIS intends to do during the coming year and what resources are necessary to accomplish these tasks. This document is a working document and is subject to change.

It is apparent to the reader that this plan follows the format of the first annual plan that was developed from a format provided by the WOIC Board members in an effort to provide a workable set of information to communicate between staff and Board on the annual effort. The basis of this report is the NOIS contract scope of work for the second year, the 5-year statements presented by the Board members, and the comments of the Board members on the staff presented 5-year outline.

If there are any questions, please bring them to my attention.

Mark Johnson
Executive Director

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I. INTRODUCTION

The lack of career decision making tools, adequate and current occupational information, and job-search techniques has long impinged on the service quality of educational and training agencies who attempt to aid individuals in the transition from school to work. Material is fragmented and outdated, systems for decision making vary, and the potential worker is left without a systematic process and the necessary information for his/her career choice. To overcome these problems, educational and vocational counselors have stressed the importance of a system approach which provides comprehensive and current information as well as a process for decision making to complement the agency counseling goal.

To develop a positive influence on the process by which people in the State of Washington choose careers, the Washington Occupational Information Consortium (WOIC) was established. WOIC is an interagency organization whose purpose is to provide the people of Washington with current, accurate, and locally relevant information in a systematic manner. Membership of WOIC consists of the Office of the Governor, Commission for Vocational Education, State Board for Community College Education, Superintendent of Public Instruction, Council for Postsecondary Education, and Employment Security Department. The head of each agency, or his appointed representative, serves on the WOIC Board of Directors.

1.1 Background

WOIC was established in 1974 based on the drive to implement a statewide system of career and labor information. To test the viability of such a system, Oregon's Career Information System (CIS) was used due to its access, excellence, and transferability. In order to accommodate the needs of the users within the state initially, the Oregon program was modified to provide information geared towards Washington occupations and schools. Pilot run sites identified within the Washington State Community College System served to establish the need for such a program. Seven community colleges used the computerized system during the 1974-75 academic year. As a result of a two-year federal grant in August, 1975 from the Manpower Administration, Department of Labor, WOIC was funded to develop an ongoing and responsive occupational information system designed potentially to service all agencies within the State of Washington.

During the 1975-76 academic year, based upon the NOIS grant, the first year WOIS work plan was developed. The primary efforts of the first year were to:

(1) convert the Oregon Career Information System to a Washington environment;

(2) to convert the computer programs from the Hewlett-Packard to the Eastern Washington State College Univac time-sharing computer;

(3) to develop a set of information appropriate to the State of Washington using the Oregon format;

(4) to develop a clientele of representative post-secondary education, common schools, and social service agencies with a heavy emphasis the first year on community colleges. The community college effort was the result of the strong interest expressed by the colleges and their involvement in the 1974-75 pilot year.

In addition to these four functions, the first year resulted in a set of accomplishments that are important to the development of the second year plan. Major accomplishments, in addition to those mentioned above, include the development of a very viable organization with a Board of Directors, active subcommittees, user feedback, a competent staff, and an operating philosophy for WOIS. The first year created a working base for the expansion of WOIS throughout the State of Washington and also provided a set of experiences that will be very helpful to structuring a second year plan that will be more accurate and responsive to the needs of the clients and the limitations of the system to serve those clients.

1.2 Goals

The WOIS second year plan is designed to satisfy the same five major goals noted in the first year plan and also stated in the Occupational Information Systems Grants Program Standards and Guidelines. These goals are:

(1) To help students learn about and understand the range of career opportunities presently available and those that are likely to be available in the future.

(2) To help entrants into the labor force become aware of occupations that they would find acceptable and personally satisfying.

(3) To encourage persons in the process of career exploration and decision making to seek out vocational information on their own.

(4) To increase the awareness of major sources of occupational information for the purpose of acquiring knowledge of occupations and training.

(5) To provide for related programs, including career education, career and employment counseling, and manpower and educational planning.

1.3 Objectives

The goals of WOIS for the second year are not specific enough to measure performance and accountability. Therefore, it is helpful to establish some specific objectives for the second year activities that will clearly identify the direction of the WOIS staff, provide expectation to users, and provide accountability for the Board of Directors. The WOIS second year plan objectives include the following items:

(1) providing service to 170,000 potential users in the following categories:

Community colleges	60,000
High schools	60,000
Employment Security	20,000
Four-year colleges	15,000
Social service agencies	15,000
Middle schools	---

(2) collection of $56,000 of local revenues from users;

(3) production of 50,000 user handbooks, publication of 500 occupational books, 500 educational program books, and 500 school books;

(4) production of 150 needle-sort decks;

(5) acquisition of sufficient computer teleprocessing ports to avoid busy signals for clients using the computer system; and

(6) production of all required NOIS reports.

1.4 Activities

The major program activities to meet these goals and objectives during the second year are identified in the program overviews and the itemized estimates in Sections 2.1 through 2.6 and 3.4 through 3.8.

1.5 Assumptions

In the development of any complex plans, certain assumptions are made prior to the actual construction of the plan. This second year plan, as in the first year plan, reflects the extreme importance that the set of assumptions have in acquainting the reader with the foundations upon which the plan is based and focusing upon those items that affect the accomplishment of the plan. In light of these two different types of concerns, the assumptions will be segregated by, first, the foundations of the plan and, second, the external constraints over which WOIS has no direct control.

The first and major assumption of the entire WOIS program is that there is a critical need for an occupational information system in this state.

The second assumption is that the agencies represented on the WOIC Board of Directors strongly support and endorse the concept of WOIS and the product that it is attempting to deliver to clients within the State of Washington.

The third assumption is that the user agencies will be able to provide, through a WOIS franchise fee, the approximately $50,000 of fees during the present year; the computer terminal and computing costs that they require at their own sites; and the staff support at their individual agencies to operate the WOIS system.

The fourth assumption is that this project follows an economy of scale whereby the more users obtained, the lower the cost per user and, conversely, the high fixed costs reflect the relative inability to lower WOIS costs, even with a reduced clientele over a short period of time.

Fifth is the assumption that during the third and subsequent years of operation this project will be primarily supported financially by federal NOIS grant funds and legislatively appropriated state funds with only a small percentage of the total staff costs of the project being furnished by the user fees.

The sixth assumption is that close coordination is valuable between the WOIS effort, those of other grant states, and those of other states presently providing occupational information. This assumes that many useful ideas will come from other states working on similar problems and that our computer systems and information systems might necessarily be constrained by the need to coordinate changes on an interest basis.

Seventh is the assumption that WOIS will provide information in the Vancouver, Washington area that requires a set of Oregon data to be accessible to Clark County and other Washington clients.

The following assumptions are based on external circumstances over which WOIS has no direct control. These assumptions reflect the constraints that may exist in implementing the WOIS objectives during the second year.

The eighth assumption is that the Data Processing Authority and EWSC Computer Center will provide dependable, low cost, timely, long-term service to all WOIS computer system users that request service.

Ninth is the assumption that should agencies want to install the WOIS computer programs on their computers, at no cost to WOIC, such a plan would be acceptable to both WOIC and the Data Processing Authority.

The tenth assumption is that quality information is not as accessible as was thought during the writing of the grant proposal in 1975 and setting up the first annual work plan expectations for the 1975-76 school year. This assumption is based on the experience of the first year information development task and is reflected in a more modest plan for providing detailed labor market information by selected geographic regions. Only Seattle, Spokane, Tacoma and Portland SMSA's will be individually identified in the occupational information.

1.6 WOIS

In order to achieve the goals and objectives as established above, the Washington Occupational Information Service is organized to accomplish these goals and objectives. Structurally, the WOIS staff has five major components: User Services, Information Development, Computer Systems, Support Services, and Research & Evaluation.

1.7 Purpose and Format of Document

The purpose of this document is to provide the WOIC Board of Directors and other interested individuals with sufficient information to determine if WOIS is: (1) fostering the development, access, and use of career and labor market information in the State of Washington for the second year, and (2) meeting the obligations of the Department of Labor grant.

To accomplish this purpose, this document will consist of four sections. Section I provides the introduction. Section II identifies WOIS general and divisional goals. Specific division objectives and timetables are also provided within this section. The budget is specified in Section III, with detailed information. Section IV contains information concerning the organizational structure of WOIC and WOIS.

1.8 Second Year NOIS Grant Scope of Work

II. OVERVIEW OF SECOND YEAR PROGRAM

2.0 WOIS Objectives

Based on the major goals and activities (as stated in 1.2 and 1.3) and the NCIS scope of work, it is necessary to outline in more detail the types of objectives that must be accomplished. These objectives can be grouped into six categories according to WOIS divisions: (1) User Services, (2) Information Development, (3) Computer Services, (4) Research and Evaluation, (5) Administrative Services, and (6) Management. For each category of objectives, specific goals and timetables are provided.

2.1 USER SERVICES

The chief functions of User Services are in three major areas: marketing, service to users, and a feedback link from WOIS to users and from users back to the various sections of the WOIS staff. These three functions are all very much intertwined and are not separate and distinct. In the next year, WOIS will attempt to provide service through schools and agencies to over 170,000 individuals. In order to accomplish this objective, plans for marketing, providing service, and communicating with users and WOIS staff need to be carefully developed. The User Services staff will not be able to function exactly as it has in the past. With the increase in the number of users and the emphasis on marketing, more efficient methods for working in each of the functional areas need to be devised.

The first function mentioned is marketing. This function, of course, is the beginning of our contact with each potential user. Our emphasis in the initial year has been to develop an awareness of the program statewide especially in those areas which have access to local phone calls. Also, the emphasis this past year was on marketing the computer delivery system rather than the needle-sort version of the program. Both of these emphases will change during the next year.

Knowledge about WOIS is fairly widespread among educators. That knowledge must certainly be increased. In order to develop increased awareness, seven regional demonstrations will be held during the fall to provide for statewide exposure. Additionally, the meetings will serve as a basis for further contract development.

The major thrust in marketing over the next year will be to involve as heavily as possible the public school system. The public school system will need to buy into the program in order to provide the necessary level of support to maintain WOIS. Also, in its present format, WOIS is presently most useful in the school setting. However, as we develop new components of the program and continue to work with other agencies, our marketing focus will broaden to include a wide range of settings among four-year colleges and social service agencies.

The general approaches to marketing WOIS in terms of advertising, identifying decision makers, demonstrating and getting a contract signed will probably not change a great deal. The development of brochures and general mailings about the program will need to be done early in the fall of the year. User Services will coordinate the dissemination of public information through newspaper articles and radio and television broadcasts.

After the regional demonstrations take place in October, on-site demonstrations will be arranged. The on-site demonstrations of the program will largely be accomplished in two manners--first, the initial demonstration so that decision makers can see the program, and, second, the opportunity for counselors, or some other staff member who works directly with students or clients, to work with the program for a three to five day period. This technique has worked very well for the past few months and will continue to be used this next year in marketing the program. Using this method will require the purchase of several more portable terminals so that several demonstrations can be going on at the same time.

The process of actually getting to the point of signing a contract is a lengthy one in most places. Of course, there are a variety of costs the program user needs to consider. The role of the User Services staff will be to explain in detail the various costs. That means, the staff needs to be knowledgeable in telephone costs, computer time, terminal costs and the other supplies which are used.

To assist with the marketing effort, current users will be sharing their experiences with peers through involvement in the regional demonstrations. Information shared on this level tends to have a great deal more credibility than from someone who is not actually using the program with students or clients. A major portion of our marketing effort in the coming year will depend on our being able to identify these key people and then work with them over the next several years in creating interest about the program.

The User Services staff will continue to maintain an active participation in professional association meetings relating to career and vocational education, counseling and other related groups. It is important that the User Services group be considered a vital part of what is happening in those fields. Professional meetings also are excellent opportunities to demonstrate and communicate the objectives of the program and to spark interest.

The process of marketing the program will be greatly enhanced by the development of the needle-sort version. This version will have application especially in smaller districts or agencies which cannot afford the cost of using the computer and acquiring a terminal or in areas which do not have access to a local telephone line. Also, computer users of the program will find the needle-sort version of the program is the most effective use of the program in some circumstances.

Service to users is a vital function. Quality service is identified by three features: (1) training which provides for a sound base for use; (2) adequate support/resource materials to operate the WOIS system; and (3) a systematic method for handling service needs.

During the summer, contracts will be sent out to current users and new users who anticipate beginning service during the fall.

In the initial year of operation, the need for training and follow-up with program users was greatly underestimated. Just showing a few staff members how to get onto the computer and mechanically work the program has not been nearly enough to insure effective use of the program. In trying to compensate for this, the staff took on a fire fighters' role in aiding users to solve problems. However, over the next year, it will be necessary to develop very structured and detailed training programs scheduled on a regular basis to insure effective use of the program. Training sessions will be scheduled on a regional basis to occur in tandem with the regional marketing demonstrations: the demonstrations in the morning and the training sessions in the afternoon. Again, the assistance of current users to help plan and schedule sessions will be imperative. The basic plan is to structure two general training sessions spaced a couple of months apart for new users. As we gain more and more new users, these will have to be done in large groups rather than at each individual user site.

The assumption that the users of the program are not sophisticated in the use of the computer must be made. Also, a good deal of orientation into the theoretical basis of the program needs to be done so that counselors and others can work effectively with clients and students. While the program is one which is fairly self-directed on the part of the individual user, there are a number of things that need to be fully explained in order for the user to really get full benefit of the program. On a long-range basis, as counselors become familiar with the program and various ways to use it, we will be looking to them for ideas on effective use.

At the fall training sessions, support materials will be distributed. New User Handbooks and Occupational file dumps will be provided at this time, as well as needle-sort card decks. Later, as they are printed, SCHOOL and PROGRAM file dumps will be distributed at User Advisory Group meetings.

An internal system has been designed to deal with user concerns. Effectiveness rests in communicating the concern to the appropriate WOIS staff member who can solve the problem. The solution, then, must be communicated back to the concerned individual. (See attached User Concern Feedback Chart.)

Finally, the development of local VISIT files will be encouraged and supported by the User Services staff. Initially four local files will be developed and made available in Tacoma, Olympia, Longview and Bremerton. With increased support for development, other local files will be encouraged. The development of local VISIT files in all locations requires someone from the school or agency who is willing to do the legwork. Based on our first year's experience where four communities are already involved, it appears that the development of VISIT files is also going to be a major project. Coordination, of course, will be provided by User Services to insure that information is received in a usable format and contains all the information necessary to be helpful in the VISIT file.

The final major function of User Services over the next year will be to provide a communications network between the WOIS staff and the program users. This function is key to the entire operation of WOIS and will require a great deal of effort in developing and working with a User Advisory Group and the various other functions of the WOIS staff.

Also, a vehicle for communicating on a regular basis with program users has been developed. An initial newsletter was published this past spring. A regular newsletter that is a polished effort will be published regularly in order to adequately communicate with all program users. The newsletter should insure that program users are kept abreast of program developments and problem solving techniques. The level of effort required to produce such a document will require a great deal of staff time. Both methods of communicating, the User Advisory Group and the newsletter, will provide the necessary link for the User Services staff in communicating user needs to ther WOIS staff members and the WOIC Board of Directors.

2.2 INFORMATION DEVELOPMENT

Information development is an integral phase of the process of helping people prepare for a productive and desirable employment role. Information development produces data which allows students and other users the opportunity to match their occupational attributes, values and goals against current and forecasted employment information. It specifically indicates the combination of skills, training, education, and other competencies required for successful entry (or re-entry) into the occupational world. The Information Development Section (IDS) of WOIS is responsible for: (1) selection and gathering of information regarding occupations and educational programs; (2) synthesis of this raw information into a current, accurate, and localized data base; and (3) translation of this data into a refined and concise format, palatable and meaningful to students and other users.

The IDS is separated into two functionally autonomous, but interrelated, units: Occupational Information Development and Educational Program Information.

During the first year of operation, IDS staff converted, developed, and transcribed relevant information from the Oregon system (CIS) into a system localized to the specific needs of Washington users. Washington specific information was accurate on a broad regional scale. The second year of operation will include greater detail and local specificity of information. Specific data on wages, current employment, and labor supply/demand outlook for at least King, Pierce, and Spokane Counties will be provided. Staff time permitting, the geographical scope will be expanded into other areas.

During the second year of operation, IDS will be actively involved in the following assignment areas: (1) maintenance of accurate information on 227 currently listed occupations; (2) expansion (in terms of both quantity and quality) of the review panel process; (3) addition of new occupations; (4) maintenance of up-to-date information on educational programs; (5) implementation of a tier format for all educational programs; (6) research and development of "School Detail" data for Washington State schools and those in designated areas in border and other states.

The maintenance of the data base on the existing 227 occupations is not a static process. Rather, it requires reviewing each one to insure the content is accurate and current. Some of the data, wages and employment outlook, for example, are highly variable and require frequent examination and update. This activity is on-going throughout the year. The updated occupational descriptions will be printed twice this year, on August 1, 1976 and February 1, 1977. The Information Development Subcommittee of WOIC continues to be very helpful in developing accurate information. Ray Harry has been designated a key person to consult for employment outlook data and Lyle Tinker has been designated as the key subcommittee member for the occupational description book.

An important source of the information required for this maintenance activity is the review panel process. It serves as a check on existing information accuracy as well as a tool for collecting needed information. Building upon the existing review panel structure, more reviewers will be solicited in a wider spectrum of relationships to the various occupations. That is, for each occupation, it will be desirable to have a review panel consisting of: (1) an employee, (2) an employer, (3) a professional association or trade union representative, (4) an educator, and (5) a labor market analyst. The formal review panel process will begin on December 1, 1976 and continue through July 31, 1977.

Ten to twenty new occupations will be added to the system. Some of these will be broken out of existing occupational clusters for greater clarity and depth of coverage. Totally new occupations will be selected based on: (1) where the largest number of workers are employed, (2) where the largest percentage of growth will occur, (3) where educational institutions are training students, and (4) where students express the most interest. When the additional occupational information is completed, Washington will have occupational information available to users on the most significant occupational groupings of the 440 Census of Populations listing. This activity will begin on August 1, 1976 and continue through February 1, 1977.

Throughout the year, work will continue, as time allows, on various labor market research projects. Currently, work is proceeding on a study of intra- and inter-firm occupational mobility. The results of this work may eventually be incorporated in the system as part of a general overview of what labor markets are and how they work.

For the existing 230 educational programs, maintenance will consume a considerable amount of analyst time. The maintenance function consists of: (1) reviewing the program content for accuracy, (2) determining if the program is still used, and (3) determining which schools listed in the program still offer it. The process will be on-going throughout the year. Occurring on August 31, 1976, one printing, in booklet form, of the Educational Program file is planned.

Beginning in January and continuing through July, 1977, about 75 of the educational programs will be displayed in a new tiered format. The tiered method for presenting program information consists of editing the data to an entry level situation composed of generic topics. The user will subsequently be directed to designated sub-programs. The sub-programs will be developed about college major or vocational programs. Sub-vocational programs may consist of variations around a common base such as kinds of secretarial skills. A list of schools will follow the program description. This list will contain the school name, city where it is located, and specialties the school offers with respect to the program.

In addition, detailed information will be provided for the 330 schools in Washington. A wide variety of information from tuition to student body size will be included. It is planned that this information will be printed, in booklet form, once during the year on October 31, 1976.

Further, it is tentatively planned that beginning in March 1977, detailed information on 200 more schools will be added to the system. This figure includes out-of-state schools located on the periphery of Washington, national correspondence schools, and selected out-of-state schools that are approved by the Commission for Vocational Education (CVE). By July 31, 1977, this information will be fully included in the system.

2.3 COMPUTER SERVICES

The primary effort to be expended during the second year (1976-77) will be towards obtaining complete WOIS automated systems operational status. Six major computer system project areas are scheduled during the second year. Many of the project areas defined in the first year proposal were not accomplished or were incomplete due to the excessive conversion complications occurring at Eastern Washington State College. A series of analytical studies fall in this category, as well as the System Specification Document. It was fortunate that the expected need for these studies and document did not occur during the first year or, apparently, will not during the second year either. Where data related to these tasks were needed, they were collected on an ad hoc basis. When the needs assessment is completed in the spring of 1977, the system redesign effort should be re-evaluated.

Also, during this time frame, maintenance of the WOIS at EWSC will be a major task. This will involve correcting current known system deficiencies and completing the system and programming documentation. Installation of SEARCH on a Washington computer will require considerable computer systems effort as determined by a feasibility study.

Computer services will coordinate computer support for special projects such as the Commission for Vocational Education evaluation project and provide support for specific system changes such as those for appliance-bound, visual and hearing impaired users.

Telecommunications support will also be a prime effort area due to the interfacing of EWSC with the telephone company, increase in number of remote site users, and hardware and software considerations.

User needs assessment will be a major analysis project area which will provide the data for new WOIS computer system specifications.

Other areas of computer services second-year support are the integration of Oregon and Washington data into WOIS, being different types of users on-line, providing research and evaluation with statistical and support programs, and supporting the development of structured access methods.

In looking back over the first year's experience, the decision made by the Data Processing Authority to use the EWSC computing facility is being re-evaluated because of the considerable telephone line costs involved, the lack of adequate programmer staffing at EWSC to support WOIS, the programming complications, the obvious concentration of users being in the western part of the state, and the modest revenues that are produced by the WOIS type of system. WOIS users are the complete opposite of most administrative and academic users. They often do not use much computer time or produce substantial revenue, but do schedule client time and require availability of a telephone connection and computer access. This type of user works well on low-cost, low-overhead systems with fixed contracts for service availability.

	*SIX MAJOR COMPUTER SYSTEM PROJECT AREAS	PERCENTAGE
310	Maintain WOIS at EWSC	25 %
311	Correct known deficiencies	5
312	Documentation	5
320	Install SEARCH on a Washington Computer System	5
330	Coordinate Computer Support for CVE Evaluation Project	5
340	Provide Support for Specific Changes	5
341	Appliance-bound users	2.5
342	Visually & hearing impaired users	2.5
350	Telecommunications Support	10
360	Needs Assessment (new computer system specifications)	15

2.4 RESEARCH AND EVALUATION

The purpose of research and evaluation activities is to provide the national office (NOIS) with quarterly reports, annual reports, and other evaluation reports as required by the project's Standards and Guidelines; to determine the effectiveness of the project in attaining the specified goals/objectives and the effectiveness of the occupational and educational information developed; to determine the effectiveness of the delivery system; to conduct other research projects related to WOIS goals; and to explore alternate access and delivery systems.

More specifically, the role of research and evaluation is to plan, conduct, and report evaluation findings. This necessitates:

(1) identifying evaluation needs;
(2) designing evaluation studies;
(3) gathering relevant statistical data and descriptive information;
(4) analyzing and interpreting the findings; and
(5) reporting the results of the evaluation study.

Process Evaluation

During fiscal year 1976-77, as in 1975-76, WOIS staff will participate in the development of quarterly and annual reports to be submitted to NOIS. These reports will detail the process involved in developing the WOIS system. The basic scope and sequence of this process evaluation is presented in the Standards and Guidelines (pp. 51-59) and in the WOIS Third Quarter Report (Appendix VI-D-2).

Impact Evaluation

Whereas the process evaluation attempts to identify the process used and the problems encountered in developing and marketing the occupational information system, the impact evaluation seeks to determine the effects or impact this system has on users. WOIS sought and received funds from the Research Coordinating Unit to assist in conducting an impact evaluation of both CIS and CCIS information systems. This evaluation study will take into account the impact evaluation questions developed by NOIS to provide comparability of data between OIS states, as well as locally relevant concerns such as questions about the delivery system, the information impact on users, cost alternatives, and component formats. Some of the evaluation data will be handled by a tracking routine within the computer. The study design will follow the pre-test/post-test model with field testing planned for five different sites representing secondary schools, vocational-technical institutes and community colleges.

Needs Assessment

Initially the determination of the need for and type of occupational information needed was determined by specialists at the national level. It has become apparent that for WOIS information to be relevant to users in the state of Washington, a comprehensive needs assessment has to be conducted to identify and prioritize user needs. These user needs would, then, become the basis for determining locally relevant goals/objectives for WOIS activity for the ensuing years of the project. Our plans are to develop a needs assessment instrument, conduct the study, analyze and report the results, and assist in the process of converting needs to objectives/goals for WOIS.

Special Concerns

As time permits, research proposals will be developed to meet the occupational information needs of special groups. A proposal has been developed and submitted to the Research Coordinating Unit for funding to develop occupational information for the sensory handicapped (deaf and blind). Other promising areas are: structured access for the handicapped, armed service training opportunities, career awareness for elementary students (needle-sort adaptation), and utilization of the VIEW delivery system.

Structured Access

During 1975-76, we utilized QUEST from Oregon's Career Information System (CIS) because of its ease of adaptation and because we were concentrating on secondary schools and community colleges. As WOIS begins serving more divergent clients, the need for a wider variety of structured accesses will become increasingly important.

During 1976, WOIS received funds from the Commission for Vocational Education (CVE) to develop a structured access methodology using the General Aptitude Test Battery (GATB) and the Interest Check List (ICL). These tests are being extensively used bv Employment Security, secondary school counselors and community college counselors. This project involves developing and testing the access methodology and training counselors in the proper use of the system. In addition, the impact evaluation proposal funded by CVE will permit WOIS to examine the CCIS' (Marble/Highline) structured access.

Decision-Making Information

Evaluation research can be a means of increasing rationality the decision-making process. With objective information on the outcomes of programs, better decisions can be made on budget allocations and activity planning. The initial task will be to develop conceptual model discussion paper. This paper would seek to clarify Research and Evaluation's role in the decision-making process, thus maximizing the use of information gathered during the process evaluation, impact evaluation, and needs assessment. Once accepted, the implementation of the model would necessitate developing the mechanics of the process and evaluating the effectiveness of that process.

2.5 ADMINISTRATIVE SUPPORT

Within the WOIS project, virtually all of the efforts of the technical staff must process through the administrative support team to become productive. This group provides full secretarial support on a daily basis, as well as providing secretarial service to the User Advisory Group and the WOIC Board of Directors. In addition, maintenance of the data base on the computer system and assistance with user-related computer problems are provided as are the following liaison functions with the caretaker agency: accounting, procurement, personnel, space and equipment support.

During the second year of WOIS operation, three persons full-time, plus occasional part-time persons during peak load periods, will be providing the necessary support for the technical staff and management.

2.6 MANAGEMENT

Management serves the dual roles of being the official interface between the WOIS staff and the outside world, especially the WOIC Board and the NOIS staff, as well as the second role of being the point for planning, programming, budgeting, directing, and evaluating the staff effort.

During the second year of WOIS activity, the principal external concerns of management will be to: (1) continue the excellent relationship between WOIS and NOIS, (2) provide support to the WOIC Board on WOIS matters, (3) maintain contacts with the key elements of the present and potential user groups, (4) maintain contact with career guidance, occupational information, and related professional contacts to keep WOIS up on the state of the art in appropriate areas.

Within the staff related portion of management time, by far the majority of the effort consists of short, medium and long-range planning as well as report writing and related correspondence. At the beginning of the second year, there are four major efforts consisting of a detailed annual report of the first-year effort, development of the second year effort, development of the third and fourth year biennial budget submission materials, and development of a five year plan.

Staff direction is facilitated by monthly activity reports from each staff member, a management three-month calendar of production deadlines, the annual work plan, plus several production reports such as computer usage, user comments and needs, and travel reports.

Specific projects consist of:

(1) Second-Year Plan

(2) Biennial Budget Request

(3) Five-Year Plan

(4) First-Year Progress Reports - NOIS

(5) Evaluation Study and Report - NOIS

(6) Quarterly and Annual Report to NOIS

(7) Internal Work Load Assignments

(8) Performance Evaluations of Staff

(9) WOIC Board: Agenda, Support Materials, Staff Support

(10) WOIC Progress Reports

3.0 SECOND YEAR PROJECTS AND BUDGET

To accomplish the second year programs as described in Section II, there have been developed six specific projects as described on the following forms. Each project is presented on a project control form to facilitate the management function of evaluating the various projects, relating projects to milestones, resources, progress reporting and subordinate levels of management control.

Preceding the individual project statements, there is a chart of the overall effort, and a budget for the project as a whole, a PERT chart describing the major relationships among the various activities.

3.1 PERT Chart
3.2 Gantt Charts of the Project
3.3 Budget for the Second Year
3.4 Itemized Estimates for User Services
3.5 Itemized Estimates for Information Development
3.6 Itemized Estimates for Computer Systems
3.7 Itemized Estimates for Research & Evaluation
3.8 Itemized Estimates for Administrative Support
3.9 Itemized Estimates for Management

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WASHINGTON OCCUPATIONAL INFORMATION SYSTEM
Proposed Second Year Scope of Work

100 USER SERVICES
(Contracts totaling 170,000 potential users)
  1) 100,000
  2) 125,000
  3) 150,000
  4) 170,000

110 Marketing Activity (Package)
  1) Package completed
  2) Regional demos complete

120 Training Sessions (Package)
  1) Package developed
  2) Initial training complete
  3) Second Training

130 User Advisory Group Sessions

140 VISIT Option Support
  1) Tacoma
  2) Olympia
  3) Bremerton, Longview

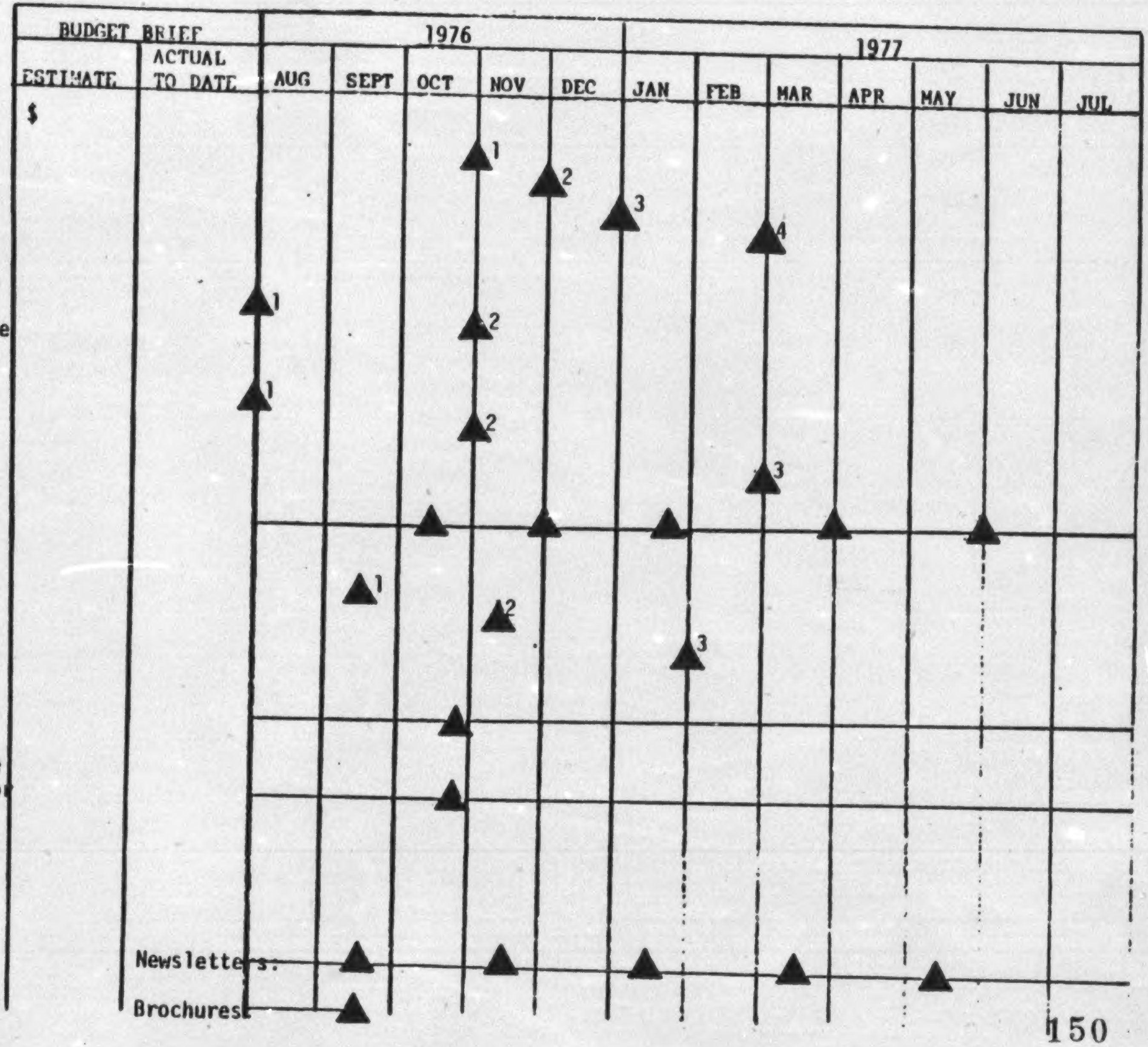
150 Handbooks Distribution
  1) 10,000

160 Occupational Dumps Distribute
  1) initial distribution for users completed

170 Educational Dumps Distribute

180 School Data Dumps Distribute

190 Newsletters & Brochures



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150

WASHINGTON OCCUPATIONAL INFORMATION SYSTEM

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Proposed Second Year Scope of Work

200 INFORMATION DEVELOPMENT

210 Occupations

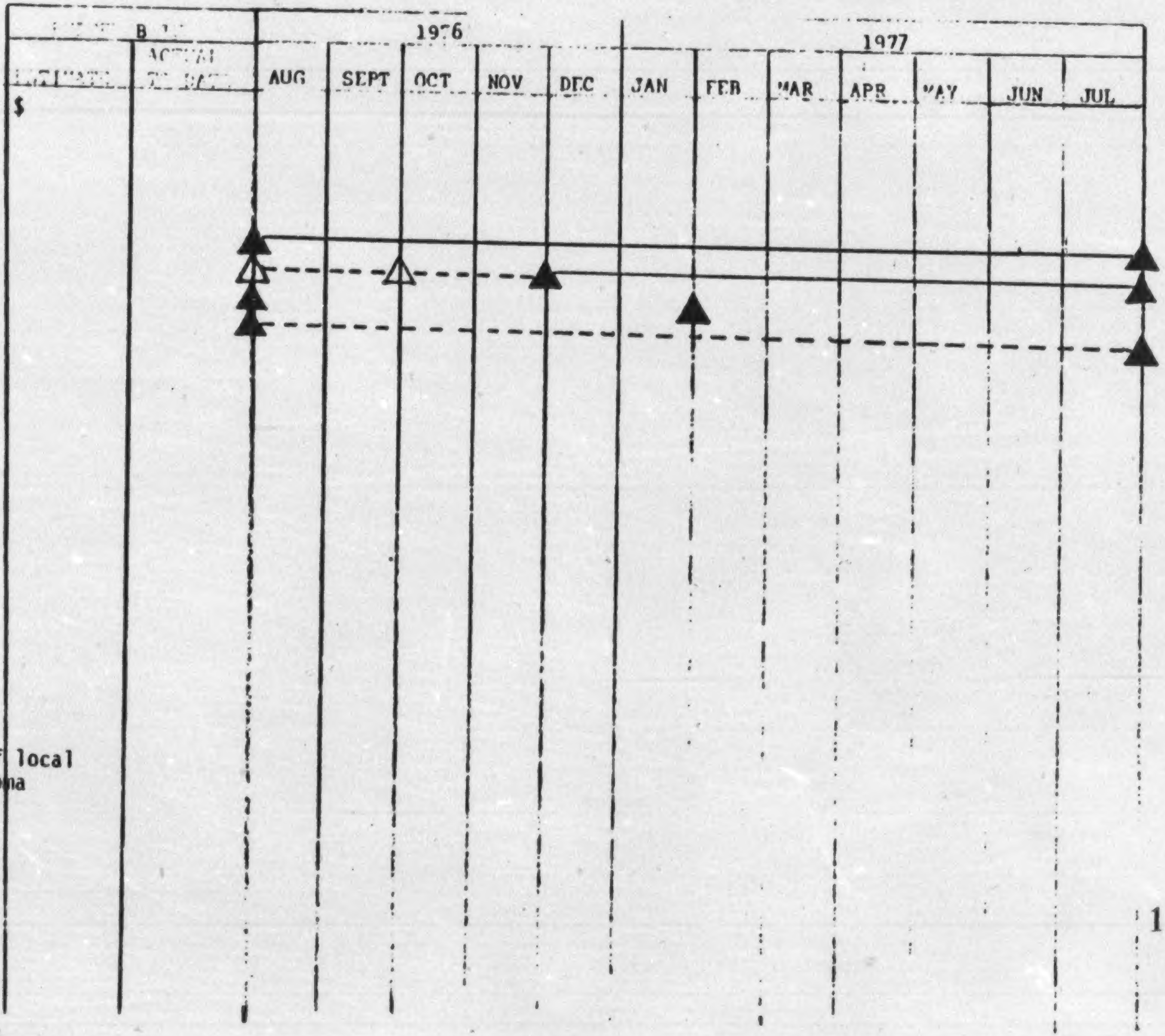
- 211 Maintenance
- *212 Review Panel Process
- 213 Add new occupations
- 214 Director's Projects

220 Educational Programs

- 221 Maintenance
- 222 New tier format

230 School Details

- 231 Washington Schools
- 232 Nearby schools



*ITEM 212 includes addition of local information for Seattle, Tacoma and Spokane

(All coordinated with Oregon CIS to provide service to Vancouver-Portland area)

WASHINGTON OCCUPATIONAL INFORMATION SYSTEM ~~/26/76~~, 8/8

Proposed Second Year Scope of Work

300 COMPUTER SERVICES

310 Maintain WOIS at EWSC (Programmer)
311 Correct known deficiencies
312 Documentation--7/8 memo 7/26 memo

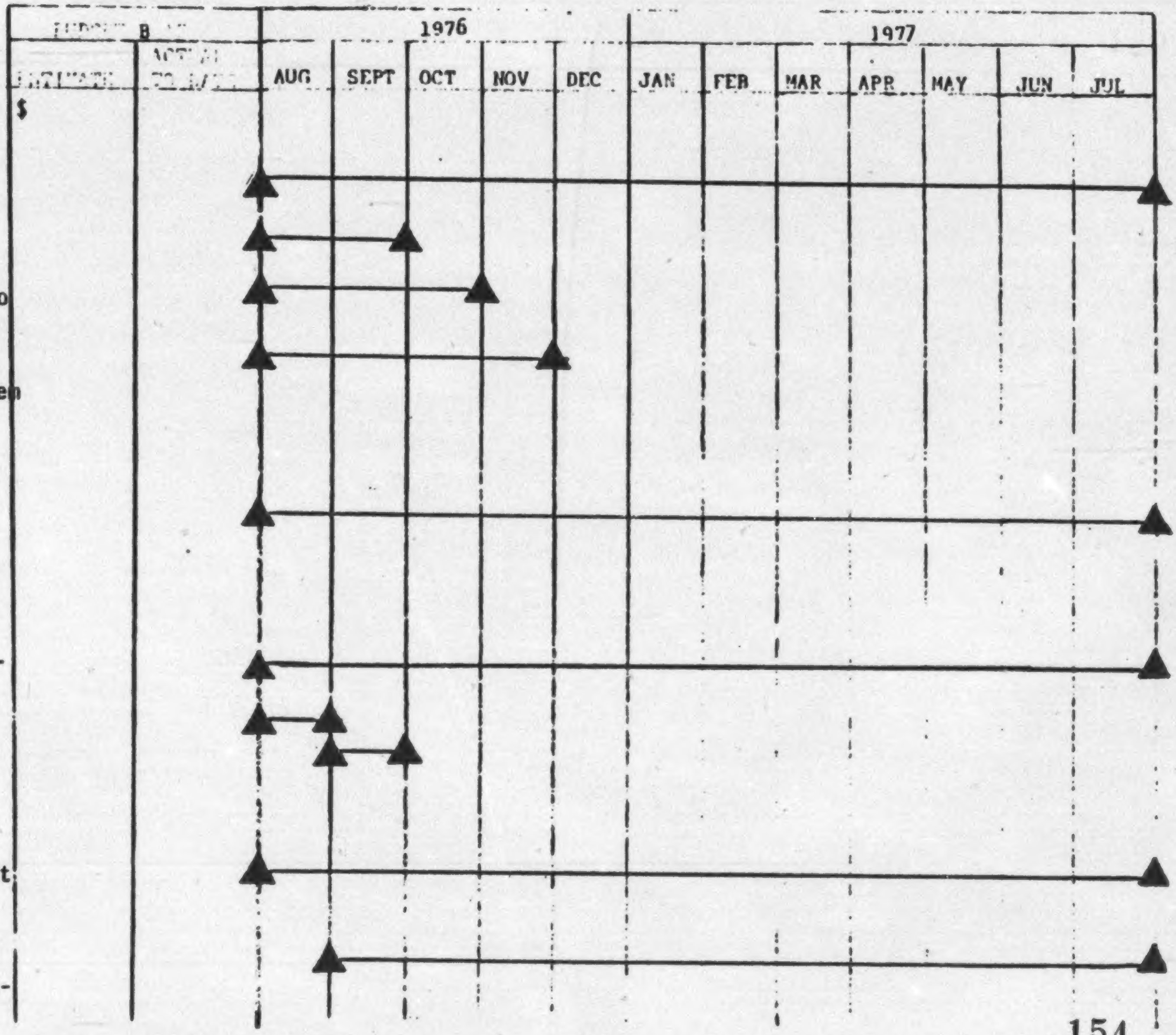
320 Install SEARCH on a Washington Computer System (probably not EWSC)

330 Coordinate Computer Support for CVE Evaluation Project

340 Provide Support for Specific Changes
341 Appliance-bound users
342 Visually & hearing impaired users

350 Telecommunications Support

360 Needs Assessment (New Computer System Specifications)



WASHINGTON OCCUPATIONAL INFORMATION SYSTEM

Proposed Second Year Scope of Work

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400 RESEARCH & EVALUATION	BUDGET BRIEF ESTIMATE $	BUDGET BRIEF ACTUAL TO DATE	1976 AUG	1976 SEPT	1976 OCT	1976 NOV	1976 DEC	1977 JAN	1977 FEB	1977 MAR	1977 APR	1977 MAY	1977 JUN	1977 JUL
410 Process Evaluation Quarterly Reports ● Annual Report ▲					●			●			●			▲
420 Impact Evaluation RCU Report ● NOIS Report ▲				●			●			●		●		▲
430 Needs Assessment 1. Instrument Developed 2. Analyze Results 3. Convert needs to goals 4. Plan developed				▲1			▲2			▲3				▲4
440 Special Concern Projects Handicapped pending			▲											
450 Structured Access CVE Report CCIS' Access Evaluation			▲	▲	▲	▲	▲					▲		

WASHINGTON OCCUPATI(L INFORMATION SYSTEM (~~/26/76~~ ,8/8

Proposed Second Year Scope of Work

	BUDGET		1976					1977						
	ESTIMATED	ACTUAL TO DATE	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
500 ADMINISTRATIVE SUPPORT	$													
(Staff, printing, postage rentals)														
Production of Documents														
Maintenance of Data Base														
All Correspondence														
Clerical Support														
Accounting														
Procurement														
Personnel New Personnel														
Space and Equipment														

WASHINGTON OCCUPATI(L INFORMATION SYSTEM

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Proposed Second Year Scope of Work

	BUDGET BRIEF		1976					1977						
	ESTIMATE	ACTUAL TO DATE	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
600 **MANAGEMENT**	$													
610 Non-allocated Costs	$	$												
Lease														
Communications														
Indirect Costs														
620 General Management	$	$												
WOIC Support														
NOIS Quarterly Reports						▲			▲			▲		
& NOIS Annual Reports														
NOIS Conferences														
Inter-agency Corresp.														
Staff meetings & supervision														
1st Year Progress Report			▬											
2nd Year Plan			▬	▬										
Biennial Budget Request			▬	▬	▬	▬	▬	▬	▬	▬	▬			
5-Year Plan			▬	▬	▬									
Conferences and Presentations														
CIS Cooperation														

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WASHINGTON OCCUPATIONAL INFORMATION SERVICE

WOIS BUDGET - FY 1976-77

SALARY DATA:

	POSITION	COST	TOTAL
1.	Director	$ 23,700	
2.	Systems Design Specialist	20,897	
3.	Educ. Program Spec. I	17,404	
4.	Educ. Program Spec. I	19,500	
5.	Educ. Program Spec. I	19,188	
6.	Management Analyst III	14,031	
7.	Management Analyst III	14,031	
8.	Research Analyst IV	16,836	
9.	Librarian II	11,400	
10.	Management Analyst I	12,617	
11.	Administrative Assistant II	11,776	
12.	Secretary II	9,975	
13.	Statistical Repts. Comp. II	9,612	
14.	Other - Temporary	3,337	$ 204,304

CONTRACTUAL SERVICES:

Data Processing	23,700	
Personal Service	13,500	37,200

SUPPLIES:

Supplies & Materials	6,856	
Printing & Reproduction	33,987	
Education & Training	1,200	
Dues, Memberships, etc.	1,608	
Subscriptions	660	44,311

EQUIPMENT:

Office	2,508	
Computer Terminals	6,000	
Repair & Maintenance	1,730	
Library	1,008	11,246

TRAVEL:

In-State/Out-of-State	19,588	19,588

OTHER DIRECT COSTS:

Communications	20,251	
Premise Lease	16,998	
Facilities & Service	420	
Personal Service Funds	1,839	
Insurance	216	
Employee Benefits	38,116	
Other	6,700	84,540
	TOTAL	$401,189